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ABSTRACT

This paper examines the many aspects of the time-shortened degree programs using both a critical and analytical framework. It is shown that three-year baccalaureate programs are not a recent idea and that the use of the idea depends largely on a willingness to not view the four-year degree as something sacrosanct. While there are some dangers inherent in time-shortened degrees, which are presented, the author believes that the issue of time-shortened degrees is only one part of the larger concern about the direction contemporary education should take, and that new ideas about accommodating the perceived needs of secondary school students and the adult learner will have an impact in this area. (MJM)

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# Time Shortened Degrees

Charles W. Meinert

ERIC/Higher Education
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1974

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## Foreword

This paper examines the many aspects of time shortened degree programs using both a critical and analytical framework. It is shown that three-year baccalaureate programs are not a recent idea and that the use of the idea depends largely on a willingness to not view the four-year degree as something sacrosanct. While there are some dangers inherent in time shortened degrees, which are presented, the author believes that the issue of time shortened degrees is only one part of the larger concern about the direction contemporary education should take, and that new ideas about accommodating the perceived needs of secondary school students and the adult learner will have an impact in this area. Charles W. Meinert is an Associate in Higher Education at the Bureau of College Evaluation, The State Education Department, The University of the State of New York.

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## Overview

*Introduction*

American higher education is currently in a state of considerable ferment. This condition reflects both fiscal stress and curricular uncertainty. Although traumatic to some, eras of change can also be creative and productive periods of rethinking the mission of education and introducing appropriate new educational practices. This monograph will focus on time shortened degrees, one of the important and controversial strands of the current educational debate. Efforts to modify the traditional time pattern and expectations of higher education have had a long history in American higher education, but they are currently a matter of particular concern for pragmatic and educational reasons.

Academic credentials have become increasingly more important in American society; at the same time, however, acquisition of academic degrees requires a longer period of study and a more substantial financial investment than ever before. Generally, one's investment in higher education is exceeded only by the purchase of a home. If the costs of elementary and secondary education are included, the total educational investment would far exceed any other expenditure in an individual's life span. This financial factor creates strong pressure for a more efficient educational system that saves not only time but money as well. It is a testimony to the staying force of the traditional mode of education and of individual patience that taxpayers, parents of college students, and the students themselves are only now beginning to grow restive about the rigid time patterns and the fiscal implications of American higher education.

In addition to concern about the cost of a degree, there is the utilitarian attitude that many Americans hold toward education. Such a viewpoint is sometimes denounced as anti-intellectualism, but most Americans do not conceive of higher education as a time of philosophic reflection. Instead, they perceive it as a time of preparation for a career. This view provides added pressure to eliminate excessive requirements, unnecessary frills, and wasteful duplication to facilitate moving more quickly into productive life.

There are also countervailing pragmatic pressures within the educational structure to maintain the traditional time requirements of the present system. Faculty members at all levels, who are increasingly

unionized, are nervous about job security in an era of actual or projected enrollment decline; hence, they are not inclined or able to see time shortened programs as anything other than a threat or danger to their economic well being.

A variety of "educational" issues are also associated with the topic of time shortened degrees. The question of the appropriate or necessary time for completion of a degree has become intertwined with a number of basic issues. What is the purpose of an undergraduate education? What should be the relationship between high school and college on the one hand and college and graduate/professional school on the other? How does or should the formal period of higher education articulate with lifelong learning and an individual's educational needs?

Some of the tension associated with the topic also reflects the peculiar importance attached to time in modern life. Time is not only a significant element in most work activities, it also regulates and standardizes much of our personal lives. Time measuring instruments are among our most common mechanical devices; they are almost the predominant symbol of modern man. There are a number of interesting aspects of this concern with time, from the impulse to save time by traveling faster and arriving sooner in a competitive society, to the tendency to judge the quality of experiences by the length of time they occupy.

The educational system has not been immune to these attitudes and developments. In fact, it has come to define degrees in terms of measured time as credits. These are usually determined by a formula based on number of class meetings and/or hours of classroom work. This dependence upon time as a central criteria for degrees has probably increased as variation in the purpose and content of the curriculum has grown. It is extremely difficult for a faculty at any institution to agree on the purpose of education, and the curriculum reflects this lack of consensus. Most general education requirements have vanished; only some area requirements remain. The residential experience that formerly helped define a degree has also declined, leaving increased dependence upon the time criteria to define a degree.

*Scope of the Study*

This study takes a broad approach to the topic of time shortened degrees, both in terms of time saving techniques and educational levels of application. Approaches considered range from compression activities that allow modest acceleration by summer school study to more

dramatic curricular revision and changes in degree requirements that can result in the saving of an academic year or more. The three-year bachelor's degree movement, while important and included in this monograph, is not the major focus of the study. While providing primary attention to developments on the undergraduate level, attention is also given to secondary schools and graduate/professional school programs, since they also have been affected by time saving approaches.

Chapter I seeks to place the current debate over time shortening activities in a historic context by identifying the forces that helped establish the four-year norm for undergraduate education, and describing previous attempts to modify the traditional pattern.

Chapter II describes the most prevalent arguments currently being used by supporters of time shortening activities. A contrary view that focuses on criticisms of these developments is presented in Chapter III.

Chapter IV examines the variety of approaches to reducing the time required to complete degrees and provides illustrations of each. An estimate of the number of institutions offering the various options and their relative popularity with students is provided in Chapter V. Also reviewed are student motives for selection or rejection of these opportunities, assessment activities, and the extent to which time shortening activities are part of an organized movement.

The conclusion reviews the current situation and the major findings of this study. It also identifies unanswered questions, notes areas that deserve investigation, and suggests directions for the future development of time shortening activities.

This study does not attempt to discuss important educational issues, such as the nature or purpose of undergraduate education or the proper relationship of general and specialized education, although these topics are associated with time shortened degrees. Essential as these issues are to decisions about the duration and pattern of formal education, they are beyond the scope of this monograph.

*Nature of the Research*

The primary source of information for this study was a review of the literature with special attention to the period 1966 to 1974. This research included a search of the Educational Resources Information Center's (ERIC) *Research in Education* and *Current Index to Journals in Education* using the following descriptors: accelerated programs, advanced placement, articulation, bachelors degrees, college-high school cooperation, college-school cooperation, degree requirements, doctoral degrees, early admissions, educational change, educational in-

novation, experimental programs, masters degrees, and special degree programs.

A review of the Carnegie Commission on Higher Education's publications was also beneficial. Although no extensive study was made of individual institutions' catalogs and program descriptions, the author was familiar with a substantial number of such programmatic details, particularly for those institutions located in New York State.

This study is an initial attempt to pull together information on time shortened degrees. Presently there are no large scale studies and few of a comparative nature. Such a lack of detailed study and analysis is perhaps a reflection of the relatively recent recognition of the importance of time shortening activities, and the difficulties of constructing educational experiments that can isolate and assess the importance of time in the complex process of education.

## Historical Background

This chapter will present a brief sketch of previous attempts to change the time pattern and structure of American higher education. The treatment is obviously highly selective and simplified. Any of the periods or institutional case studies within a period presented could justify, and in some cases has received, book length treatment.

The purpose of this selective examination of American higher education is to demonstrate that the current debate concerning the appropriate length and pattern of study is not a contemporary fad or an isolated phenomenon, but one that has deep roots and important relationships to the past. Much of the color and heat associated with the contemporary discussion of reduction of time necessary to achieve degrees will also be found in the past. A review of the past will also introduce issues and arguments that are still being used in the current debate. This is not to suggest that the modern situation is a mirror of the past, for the comparison reveals important differences.

The historical periods covered by this review are divided for convenience as follows: the colonial period to the Civil War (1636-1865); the late nineteenth and early twentieth century (1865-1919); and the mid-twentieth century (1920-1969). These divisions are somewhat arbitrary but nevertheless functional. A major theme of the first period is the establishment of collegiate education. Dominating the second period are the problems of expansion and the development of the university concept. The third period is characterized by continued expansion and the growing responsiveness of education to national interests and societal needs. The era from the late 1960's to the present will be considered in separate chapters devoted to the current situation.

*The Colonial-Early American Period (1636-1865)*

The earliest American colleges, such as Harvard, Yale, and others established during the colonial period sought to model themselves after the English institutions of Oxford and Cambridge, which at that time required a four-year period of study. These institutions had developed in the 13th century following the example of French and Italian universities. The main course was the study of the trivium (Latin grammar, rhetoric, and logic). The duration of this program lasted four years and led to the bachelor of arts degree. This was fol-

lowed by a three-year program leading to the master of arts degree based on the quadrivium (arithmetic, geometry, music, and astronomy).

Fiscal difficulties at Harvard in the late 1630s caused the General Court to dismiss its president (Eaton) and to close the institution for one year. When it reopened in 1640 under President Dunster, it offered a three-year curriculum. This may have been intended as a temporary measure, but it was difficult to extend this curriculum and include a fourth year that would match English standards (Van Gelder 1972). By the mid 1650s, however, Dunster's tenure had come to an end because of his opposition to infant baptism. Under the new president, the four-year curriculum was reinstated and a residence of "three years and ten months at the least" was required (Morison 1936, Vol. I., p. 80).

Harvard and other American institutions continued the four-year pattern mainly because the colonial reading schools, grammar schools, and academies were so limited in both number and quality that a four-year period seemed highly desirable. This was because students entered college at fifteen or sixteen years of age after only approximately eight years of formal schooling.

This four-year pattern continued after American independence, although some efforts at modification were made. The University of Virginia attempted to institute a type of trimester that would have allowed student acceleration when it opened in 1819; however, it was soon forced to adopt the more conventional two-semester system to meet the needs of an agrarian economy that required young men for planting and harvesting (Boyer 1972).

There were two other variations from the four-year curriculum before the Civil War that should be noted. Several institutions, e.g., Harvard (Lawrence Scientific School), Yale (Sheffield Science School), Brown, the University of Rochester, Michigan, and the University of North Carolina, established three-year science programs leading to the Bachelor of Science or the Bachelor of Philosophy degrees. Many educators considered these to be second class credentials. President Francis Wayland at Brown, however, proposed the wider adoption of the three-year degree. His attempts to modify both the structure and duration of the bachelors' degree were based on the belief that students should have greater choice of courses, and that this degree program should parallel the English system. He hoped these changes would make a Brown education more appealing and result in attracting more students. Before his ideas were fully tested, he retired and the new president, blaming enrollment decreases on his predecessor's

ideas, quickly returned to the four-year bachelor of arts plus three additional years of study for the master of arts degree (Altman 1970).

A review of this early period suggests that the four-year pattern of undergraduate education had become traditional in America prior to the revolution; this pattern paralleled the English system; it grew out of a recognized weakness in the preparatory system and the youth of students entering college; temporary departures from the system were generally in response to decreasing enrollments and growing fiscal difficulties and/or associated with a change in the institutional presidency.

*The Middle Period (1865-1919)*

This period, particularly the decades immediately before and after the turn of the century, was a highly creative one in American higher education. Basic questions were raised about the structure of the educational system that are still of concern. Two major developments behind much of the ferment in this era were the expansion and upgrading of elementary-secondary education and the influence of the German conception of a university as a place of advanced and specialized study.

The primary school continued to gain in strength after the Civil War while the public high school began to replace the old academy. The high school provided an additional four years to the primary school, which had expanded to seven or eight years. Both institutions proliferated rapidly in the 1880s and 1890s. This growth, in turn, permitted colleges to upgrade their curriculum and enrollment expectations. For the first time it became possible to distinguish more clearly between preparatory and college work. This distinction was formalized when the Trustees of the Carnegie Foundation for the Advancement of Teaching established a pension system for college teachers (in 1899) and based the definition of a college upon the system of units (Carnegie units) in different program areas required for admission to college (in 1908). The educational system began to reflect a more rational pattern in response to the insecurity of educators, a need for order, and the quest for greater educational standardization.

Colleges developed other mechanisms to influence and monitor the quality of secondary schools and improve transfer between institutions. Regional accrediting bodies, e.g., New England Association of Colleges and Secondary Schools (1855), were created to monitor the quality of schools, and the College Entrance Examination Board was created in 1900 to test high school graduates. Curriculum conferences

and studies were also undertaken by secondary school and college educators to eliminate curricular duplication and provide greater assurance that all high school graduates had a similar academic preparation. By the turn of the century, many public schools had confidence in their ability to prepare academically capable graduates and were allowing some students to accelerate by using multiple track systems, flexible promotion, and even grade skipping.

A second powerful influence in this Middle Period was the impact of the German university on American higher education. This German university pattern reflected a federation of rather autonomous divisions or schools dedicated to specialized study and research. This pattern supported and encouraged the expansion of professional education. Medical and law schools lengthened the required periods of training and increasingly required the candidate to have an undergraduate degree for admission.

One result of these new developments was a growing concern for the time individuals spent in formal education and their ages when they entered a profession. Students might be nineteen before they entered college and thus in their mid- or late twenties by the time they completed their graduate or professional study. This was a serious consideration for many educators, since the life expectancy for white males was less than 50 years of age at the turn of the century.

Another issue of concern to many institutions that aspired to be "true universities" was the definition and place of collegiate work. For some, much of the preparatory, introductory, and/or general education previously associated with higher education had to be disassociated from the university program of specialized study, and a new pattern of institutional relationships and possibly new institutions established to provide the general education work that must precede specialized university study. To meet this need, a variety of new organizations, such as junior colleges, intermediate colleges, and even upper division colleges emerged in an attempt to make the American collegiate system parallel the European pattern that was built on the English Sixth Form, the French lycee, and the German gymnasium.

All of these forces resulted in a broad attack on the "four-year fetish," as it was referred to by William Rainey Harper of the University of Chicago. President Eliot of Harvard took an equally critical position in a speech (1903) to the National Education Association:

> The American Colleges have been peculiar in expecting so long a residence as four years. For the Bachelor of Arts degree Oxford and Cambridge have required residence during only three years. . . . Until recent years the American College doubtlessly needed four years because of the inadequacy

> of the secondary schools. Since these schools have steadily improved, and taken on themselves more and more of the preliminary training of well-educated youth, it is natural that the college should now be able to relinquish, without lowering their own standards, a portion of the time which they have heretofore claimed (Van Gelder 1972, p. 5).

The movement away from the four-year requirement received support from such institutions as Johns Hopkins, Columbia, and a number of others.

Johns Hopkins was established in 1867. By 1876 it had adopted a three-year curriculum of undergraduate study, but it soon fell into the pattern of expecting a preliminary year at the university and in 1907 moved to the four-year requirement (Spurr 1970).

Clark University was established as a graduate institution in 1889. When its founder died in 1900, his will stipulated that his money be used to establish an institution so young men who were high school graduates could get a practical education in three years. As a result, a three-year bachelor's program was instituted that lasted until 1922 (Crowley 1942).

Nicholas Murray Butler at Columbia was deeply concerned about the need to allow men to enter professions at a young age. He was able to persuade his faculty to develop a "professional option" that allowed students to enter professional schools, except law, after two or three years of undergraduate study. A number of students found this a useful option and it was not abolished until 1953; but no all-college reduction of the bachelor's program was ever achieved.

President Eliot at Harvard spoke out against the unrealistic postponement of professional study and practice in 1885, and again in 1887. He proposed that the college program be shortened by counting the first year of medical school toward the baccalaureate. He also sought to establish a regular three-year bachelor's program for well prepared and professionally motivated young men. Opposition to this plan continued at Harvard for many years and President Eliot was never able to achieve the consensus that would have enabled him to fully implement his plans. Although the 1901 catalog stated that degree requirements could be completed in four, three-and-a-half, or three years, the faculty never agreed to reduce the degree requirements to permit the average student to earn the degree in three years. The greatest number of early graduates was in 1906 (41 percent). The following year, Eliot retired and Lowell became president. Under Lowell, the percent of early graduates declined rapidly, so that in 1929 the percentage was only 5.8 (Crowley 1942).

The University of Chicago, which opened in 1892, spent the first

sixty years experimenting with new ways to organize and divide the educational experience. The faculty of Chicago was less concerned about problems of age and more interested in distinctions concerning the types and levels of academic work than their Eastern colleagues. President Harper felt there was a crucial distinction between general/liberal education and the activities of a true university. Thus, he sought to divide the curriculum at Chicago into lower and upper divisions or colleges. He also encouraged secondary schools to expand their offerings to include lower division work and suggested that some colleges should relinquish their attempts to offer advanced work (the function of a university) and concentrate on more fundamental work. No colleges accepted this offer; however, by 1904 six high schools in five states had expanded their programs to articulate with the Chicago system. The university also offered a four-quarter academic year that provided the opportunity for acceleration. Although Harper had not reformed the structure of American education at the time of his death in 1906, his heirs on the faculty at Chicago certainly kept the "pot boiling" for many years.

There was considerable opposition from faculty, students, and other educational leaders to all these efforts to change the structure of American education and reduce the time requirements. President West at Princeton, for example, argued that his college needed four years to "outflank" the deficiencies of undergraduates. Certainly there appeared to be no great student demand for such changes, although those who were enrolled in the new options apparently did well.

In retrospect, this Middle Period was both interesting and important, for it saw the first major, although unsuccessful, attack on the established pattern of time requirements and academic structure. Efforts to accommodate the new needs and realities within and around the four-year collegiate structure were only partially successful. Important questions remained unanswered. What is the purpose of undergraduate education? What is the relationship of this level of education to secondary education on the one hand, and graduate/professional schools on the other? What could be done to reduce the long period of formal education demanded by our complex and credential-oriented society?

Perhaps the most obvious break in the efforts to maintain the continuity of the old collegiate structure resulted from the emergence of the junior or intermediate college, with a greater acceptance of the distinction in the purpose and function of lower and upper division courses. The chronological sequence of the four-year system was

maintained but its philosophical and educational bases seemed vulnerable.

*The 20th Century (1919-1969)*

The critical events of this fifty-year period, in terms of our concern with changes in the time frame and structure of higher education, center around the impact of a man, a foundation, and international conflicts. Therefore, most of our attention will focus on the activities of President Robert Hutchins at the University of Chicago, the projects undertaken by the Ford Foundation Fund for the Advancement of Education, and the influence of World War II, the "cold war," and the Korean conflict.

The post-World War I period appeared to be an era of relative order and normality in higher education. Several of the pre-war innovations in the time expectations and structure of American education had been abandoned or were struggling to stay alive. The junior college movement, although alive on the west coast, was making slow progress. Secondary school tracking, acceleration, and grade skipping were abandoned in the face of progressive education. Even the University of Chicago had grown rather tame by the late 1920s as the distinction between upper and lower divisions of the institution had almost disappeared. Few suspected that the man who came from the deanship of the Harvard Law School in 1929 to the Chicago presidency would institute a twenty-year period of innovations, some of which education is just now beginning to accept.

By 1931 at Chicago, the search was underway for a curriculum that would restore the balance between general education and specialized studies. Since specialized studies had been dominant, a number of degree requirements were gradually instituted. Requirements were defined in terms of student performance as determined by examination when the individual and the dean felt the student was ready. Courses, credit hours, and/or residency requirements were dropped. Nonformal educational patterns were recognized. Placement examinations permitted students to enter disciplines at the appropriate level and to proceed at their own pace. General education courses were developed that subordinated texts to source material and placed emphasis on discussion, not lecture. The University High School became part of the evolving system. In 1942, the last two years of high school were combined with the first two years of college in a program of general education that led to a bachelor's degree. Completion of the general education curriculum fixed the point at which college ended and specialized university study began. The Master of Arts was

awarded upon completion of three years of additional study. Many students entered "Hutchins College" after they completed high school. For those high school students who entered the college after the tenth grade, the average residency period before passing the comprehensive examinations was three years.

Many in the academic world reacted unfavorably to these educational innovations. An American Council on Education panel provided the forum for one college president to denounce the Chicago degree as a "counterfeit baccalaureate." He suggested that Hutchins was not responding just to the wartime emergency but had boldly timed his efforts to kill off four-year colleges. This critic predicted that most students would remain two years and leave with superficial knowledge of many things but no real competency in anything. He further suggested that only graduates who could do well on both the general and advanced Graduate Record Examinations would vindicate the program (Tolley 1942).

Ten years later, graduates did take these tests, and 99 percent of the students scored above the 70th percentile on all eight parts of the General Education Index. Most students also scored above the median for seniors majoring in the area on at least two of the advanced tests. Other data and comparisons attested to the fact that most of the 3,000 graduates of the Chicago program scored better than the four-year college graduates who also had four years of high school (Bloom 1952).

The evidence was not enough, however, for Chicago had a new chancellor who announced in 1953 that four years of high school was again required for admission to the university. Moreover, the undergraduate program reverted to a mixture of general education and specialized courses. It appeared that Hutchins' critics were correct when they asserted that temporary departures from traditional practice might be tolerated as wartime measures when acceleration was patriotic, but with the return to peace, it was business as usual.

Other institutions such as the University of Illinois experimented with early admissions during World War II. Even the National Education Association's Educational Policies Committee adopted a resolution on acceleration:

> We urge that, during the war emergency, selected students who have achieved senior standing in high school and who will, in the judgement of high school and college authorities, profit from a year of college education before they reach selective service age be admitted to college and, at the end of the successful completion of their freshman year, be granted a diploma of graduation by the high school and full credit for a year's work

toward the fulfillment of the Bachelors degree or as preparation for advance professional education (Miller 1968, p. 6).

Not all educators accepted this resolution, however, and some suggested that colleges were more interested in responding to their lagging enrollments than they were in helping students.

In professional education such as medicine, the war brought great changes. In many schools, new classes were enrolled every nine months and the programs were trimmed and students accelerated. This may have resulted in faculty fatigue but studies of graduates indicate that they were as successful in ability and/or career achievements as graduates of conventional programs (Parks 1969). One ivy league medical school that prided itself on its requirement of a research project found that graduates of the accelerated program, which omitted the research requirement, had an equally impressive record of research activity.

At the close of World War II (1945), the Harvard Report was issued. This report was highly critical of public schools for their "colorless mediocrity" (Williams 1963). Cold war fears added a sense of urgency to upgrade the secondary school system, particularly in the areas of mathematics and the sciences if America was to keep pace with the Russians. The Korean conflict strengthened these fears and efforts. When the United States Government began drafting young men at 19 years of age, educators became concerned that a postponed college education, i.e., after military service, would hurt the quality of national life. Major universities such as Chicago, Wisconsin, Yale, and Columbia requested funds from the Ford Foundation's Fund for the Advancement of Education (Robert Hutchins, associate director) to implement a preinduction or early admissions plan. The plan permitted a limited number of superior students to enter college after three years of high school. These students were permitted to complete the first two years of college before induction. The Fund for the Advancement of Education provided $1,200,000 to support the plan. The project was broadened to include other colleges and universities, e.g., Fisk, Lafayette, Oberlin, Louisville, Shimer, Utah, and Goucher. One institution, Shimer, deviated from the plan and admitted students with a wide range of aptitudes (Miller 1968).

Studies of the 1,350 students admitted under the plan between 1951-1955 indicate that most did quite well in both academic and social areas. However, the movement did not gain wide acceptance, for favorable developments in Korea eased the pressure and reaction against the program from the public schools increased. Leaders of the National Association of Secondary School Principals urged its

members to resist attempts to curtail the high school program by early admission to college. Principals and superintendents were advised to urge students who were awarded scholarships not only to decline them but to write letters of protest to the colleges. Through these efforts, the Association hoped all citizens would become aware of the "sinister" implications of the idea. High school faculties felt they were being accused of not providing challenging work for superior students in the senior year; hence, enrichment programs were developed and the importance of students' emotional development was stressed.

Another project supported by the Ford Fund for the Advancement of Education began in the early 1950s in response to secondary school criticisms of early admission programs. A group of colleges and secondary schools studying the relationship between the two years of secondary school and the first two years of college found wasteful duplication, particularly in the sciences. They assumed, however, that the traditional pattern of eight years elementary, four years high school and four years college would not change, and thus recommended that secondary schools be allowed to offer some collegiate work that could be verified by examination *(General Education in School and College,* 1952). Most secondary school educators found this more acceptable than allowing high school students to enter college at the end of the 11th grade. The administration of this project was assumed by the College Entrance Examination Board in 1955 and the Advanced Placement Program grew from 532 students in 1953 to over 10,000 by 1960.

The Ford Foundation Fund supported other experimental programs in Atlanta, Portland, and Pittsburgh that promoted closer cooperation and coordination between high school and college programs. The Pittsburgh program was established by Chancellor Litchfield in 1958 under the supervision of the Regional Commission on Educational Coordination. Its goal was greater coordination at all levels of education in the upper Ohio Valley tri-state area. It sought to modify rigid procedures and to permit flexible progression of students. A Curriculum Continuity Demonstration project was established with Ford Foundation support to promote these ends (Gow 1966). The University of Pittsburgh also was involved in another acceleration plan during the late fifties and early sixties—the trimester or year-round plan. President Kirk at Columbia supported this idea and Columbia's School of Business Administration made the fourteen-week summer term an integral part of its program. Other colleges carefully studied and/or developed year round systems to deal with the

impending tidal wave of students. Dr. Kirk justified the new approach on the grounds that there was a need to reduce the time spent in preparaton for careers. The trimester plan of three fifteen-week terms per year provided 135 weeks of instruction in three years as compared to 128 weeks in the normal four-year period. President Kirk pointed out that this was not a return to the accelerated programs of World War II, which made compromises with academic standards, but a solid program with a "baker's dozen" clock hours (Kirk 1962).

Many other educators were concerned with providing room for greatly expanded numbers of students seeking higher education in the 1960s but few suggested better or fuller use of existing facilities. The answer was not acceleration by year-round operations but expansion of existing campuses and the construction of new colleges and universities. The economic growth and prosperity of the era made this possible. There were a few efforts to speed up the Ph.D. process in order to staff expanding colleges, just as there was an interest in increasing the supply of physicians to serve an expanding population. However, as facilities expanded and hostilities in Vietnam grew more intense, there was little incentive for students to accelerate their induction into military service by early completion of their academic work.

*Summary*

A historical review of the time frame and/or structure of American education indicates that four years of undergraduate education was traditional during the colonial period and that this pattern was not seriously challenged during the years leading to the Civil War. This pattern followed the English tradition and the particular needs and conditions of America life. It wasn't until the end of the ninteenth century that the established pattern came under attack. During this period the purpose of undergraduate education was questioned as was its relationship to secondary schools on the one hand and specialized university and professional study on the other. In the first half of the twentieth century, criticism of the traditional system grew and experimental new patterns emerged that appeared to work well for at least some students.

The debate over the time requirement and structure of American education took many forms in the three historical eras surveyed. Arguments and issues deemed important in one period were not always significant in another. For example, in the first two periods there was a tendency to look to European educational practices for a model or justification of American educational practice. By the post-

World War II era, the debate concerning the time requirement and structure of degree programs was carried on totally within the American context, with no reference to European practices. Another example of a shift in point of view is the question of students' age. In the first period the issue was used to justify the four-year system because of the relative youth of entering collegians, while in the second and third, the longer time of formal education and the subsequent older age of students was more likely to be used as a justification for accelerated programs.

There were other issues, however, that appeared rather consistently in all historical periods. Although there have been important philosophical and theoretical educational issues involved in the debate over time shortening, the issue has never been totally detached from the pragmatic concerns of enrollment, finance, and self-interest.

The question of the relationship of the college to other segments of the educational system is another sensitive topic. At the turn of the century, the primary concern was with the relationship between college and university. This is still an important issue but it is now less important than the secondary school and college interface. Secondary schools have demonstrated as strong an attachment to their four-year time structure as have the colleges. Secondary schools tended to view early admissions programs, intermediate colleges, and other restructuring or accelerating devices as usurpation of institutionalized prerogatives and unfair encroachment in their academic affairs.

Many basic issues and questions about the traditional system were not resolved. A variety of new forces and developments were on the horizon that might prove to be beyond the capacity of the traditional system to asborb without basic changes in the structure, time requirements, and the educational program. It is easier to see this emerging pattern in retrospect but an astute observer of the educational scene in the late 1960s might have recognized that the issue of changing time requirements had become intertwined with more fundamental educational issues and was therefore likely to be part of the continuing debate about the purpose and nature of American education. The following chapters will provide details of the contemporary phase of this debate, particularly as it pertains to the issue of time shortened degrees.

## The Benefits of Time Shortened Degrees

Numerous developments of the late 1960s and early 1970s have triggered a broad new interest in, and experimentation with, time shortened academic degrees, and it is difficult to determine the most significant factor or combination of factors behind this phenomena.

Whatever the cause, the current efforts to change the structure and time requirements of education have renewed the debate about the merits of these activities. This chapter will present the arguments in favor of various forms of time shortened degrees. They are organized into ten groups and are presented in order of their frequency in the literature.

1. *Economic Benefits.* The costs of education for both the taxpayer and the college student have risen dramatically in the past decade and are threatening to reach a level that neither the public nor many individuals can accept. According to Boyer (1972a), the number of students at various levels of education has risen from 48 million in 1960/61 to over 59 million in 1970/71 (an increase of 23 percent). During this same period, costs have increased from 27 billion in 1960/61 to 78 billion in 1970/71 (an increase of 188 percent). The cost to a residential student for one year at a public college is between $2000 and $3000 per year, and $5000 per year at a private institution. This latter sum is approximately half the net income of an average family. More specific 1973/74 figures for New York State indicate that the cost of attendance was $2,091 at an upstate community college, $2,831 at a public four-year college, and $4,183 at a private college (Boyer 1972a).

Enrollment, although continuing to increase, has slowed down considerably in the past few years and it may actually begin to decline some time in the late 1980s. This reflects a national decline in the birth rate. Although there are regional variations in this decline, the northeast shows the most significant decrease. Based on recent statistics, states like New York will experience a significant decline in the number of high school graduates by the end of the 1980s. The major hope for colleges to maintain their enrollment in this era will be by attracting larger numbers of parttime adult students and/or increasing the percentage of high school graduates going on for some form of postsecondary education. This latter prospect is not very promis-

ing, for in most large, developed states the postsecondary "going-rate" is already quite high. Even if a decline occurs in the 1990's, the current and future costs of education in terms of construction, operating, and tuition costs are staggering.

Although some savings may be possible, the substantial savings called for by legislatures and parents mandate structural changes that will reduce the time and cost for students in secondary and postsecondary education (Mood 1973). Such changes could cut operating costs 10 to 15 percent a year below the levels projected for 1980 and savings of 33 percent or approximately $5 billion in construction costs could result (Carnegie Commission 1971a). The California State College system, for example, estimates that it could accommodate 12,500 more students each year without additional facilities if baccalaureate programs were shortened by one semester (Dumke 1971). Other estimates suggest that if duplication between the secondary school and college were eliminated, $400 million per year would be saved (Blanchard 1971).

Even with acceleration of students and better programmatic articulation, the percentage of the gross national product going into higher education is likely to rise from the current 2.5 percent by 1980. However, unless current patterns and trends are checked the percent could reach a disturbing 3.3 percent (Carnegie Commission 1972a).

Structural changes would produce savings for the state or national economy and individual students would benefit from potential savings of 25 percent or more for a college education. The greatest student savings would result from credit shortened programs, where a substantial number of credits were earned through examination or by a reduction of credit requirements, thus eliminating a year or more of tuition (for examples see Bersi 1973). Savings would vary depending upon the form of acceleration. In some accelerated programs where there was no tuition savings, room and board costs might be lowered; also the loss of income resulting from the student's inability to enter the fulltime job market until graduation would not be as great. One economist (Bowen 1974, p. 272) argues that an individual's lifetime income would be increased by $5,000 for each year the individual could save in the completion of postsecondary education.

The potential for savings in time shortened programs is significant and constitutes a powerful argument in favor of such changes in selective circumstances and on a massive scale.

2. *Student Preparation.* There is evidence that young people physically mature at an earlier age, are intellectually advanced, and generally more sophisticated than youth of the past.

Young people are reaching physiological maturity at an early age. The average girl now has her first menstrual period (menarchel) around 12 to 13 years of age; whereas, 40 years ago it was age 15. There is a trend also toward greater physical size in children and adolescents that reflects more rapid maturation. Most teenagers now reach their maximum height by ages 16 to 17 insead of ages 19 to 20. There is also evidence that physical development correlates with intellectual development (Tanner 1971).

> This change has important implications, because psychiatrists have repeatedly demonstrated that emotional, erotic, social, and value patterns are closely connected with the physical changes adolescents undergo. Thus America has a new time frame for coming of age emotionally and psychologically—within the old educational time frame of the 1890's. The discrepancy has caused increasingly disastrous consequences. The timing of contemporary education desperately needs to be brought into closer harmony with the new maturation clock of youth (Boyer 1972a, p. 276).

Secondary students today are academically and intellectually more advanced because of the improved quality, greater length and breadth of their formal schooling, and because of a richer home and social environment. Because of well trained teachers, refined and specialized courses, good textual materials, excellent facilities, and lower student-teacher ratios (about 22.1 this year as compared to 25.6:1 in 1962), many elementary and secondary schools are performing extremely well.

The time spent in this enriched environment, although virtually unnoticed, has also significantly increased. Most children attend kindergarten and almost fifty percent have nursery or preprimary school experience. The number of young people that participate in special summer or after school learning activities in such areas as art, music, language, dance, great books, crafts, or sports has increased also. Even the number of days during the regular school year spent in the classroom has increased from 157 days per year in 1950 to 171 days in 1970. The increase in pupil attendance is the result of better transportation and improved health care, particularly in the area of immunization and the use of antibiotics. There also has been a slight increase in the length of the school calendar year. As a result of these changes, today's high school graduate spends almost [illegible] percent more of his or her time in schooling than would have been spent twenty years ago, and almost 50 percent more than in the 1920s (Boyer 1972a).

Precollege training is not only longer and better in quality, but it is richer in terms of the subjects covered and degree of specialization. Elementary schools of today deal with scientific and mathematical

concepts once thought to be the sole domain of high schools. Students are introduced to foreign languages, sociology-anthropology, and European literature at an early age. Course offerings in the high school have increased so that the high school curriculum today resembles the college catalog of a generation ago. Such courses as economics, statistics, music theory, calculus, astronomy, comparative religion, and psychology are both common and popular.

In addition to these developments, there are nonschool factors that contribute to the maturity and knowledge of today's youth. Knowledgeable and better educated parents, as well as the positive effects of the various communication media, are an important influence. It is estimated that students entering college have spent more time watching and learning from television than they have in a formal classroom.

Professor Keniston of Yale, an astute observer of the student scene, sums up the situation as follows:

> Since the turn of the century, the average amount of education received by each student group has increased by approximately one year per decade. Also, the average age for the onset of puberty has decreased by approximately one fifth of a year per decade. Finally, the average student of any given age today appears to score approximately one standard deviation above the average student of the same age a generation ago on most standardized measures of intellectual performance. A student in the middle of his class today would probably have stood in approximately the top 15 percent a generation ago; put differently, he is approximately one grade ahead, at any given age, of his parents when they were that age. Translated into individual terms, this means that the average 16 year old of today, compared with the 16 year old of 1920, would probably have reached puberty one year earlier, have received approximately five years more education, and be performing intellectually at the same level as a 17 or 18 year old in 1920. Today's high school and college students are about a year more mature psysiologically and a year more developed intellectually than their parents were at the same age (Keniston 1970, p. 118).

The importance of these factors argues for student acceleration and time shortened degrees not only for the gifted but for a great many young people.

There is also an interesting reverse argument for new structural patterns and possible acceleration. It comes from the observation that some secondary schools are so poor and unable to meet student needs that the longer a student spends in this atmosphere, the less motivated and capable he becomes. One response to this argument is removal of the student from the situation by enrolling him or her in a college that is better equipped to meet their special needs.

3. *Eliminate Duplication.* Closely related to increased maturity and education is the assertion that significant amounts of waste and harm-

ful duplication occur between the secondary school and college. Improved articulation practices could eliminate this waste and result in time shortened degrees for many young people.

Overlap is particularly serious during the last two years of high school and the first two years of college and in those introductory areas labelled general education. A study of this overlap in six schools and colleges was made in 1952. The results showed evidence of harmful duplication, wasted time and damage to student interest and academic momentum, and there was evidence of duplicated material and reading assignments in history, literature, and particularly in science (General Education in School . . . 1952). Some feel that high schools are taking over the general education function once relegated to the college.

There has been a long history of overlapping and omissions in school-college work. An early study by Professor Osburn in 1928 showed a 20 percent overlap between elementary and high school curriculums and a 10 to 23 percent overlap between the secondary school and college in certain subjects. Apparently the situation has grown steadily worse according to Professor Blanchard at DePaul University in Chicago. He asked over 600 11th and 12th grade teachers with master's degrees, in 520 high schools in 41 states, to review a sample of college course outlines in mathematics, English, social science, and science. The teachers were asked to estimate the degree of duplication between what was offered at the high school level and the college course. In the same study, 400 college instructors who taught freshman and sophomore courses in these areas in 269 colleges reviewed the respective high school outlines.

Duplication varied by subject matter and within curriculum. College instructors estimated that there was a 21 percent overlap in mathematics, 23 percent in science (32 percent in chemistry), 23 percent in English, and 24 percent in social science. The average for all areas was 23.32 percent. High school teachers' judgments were almost identical in mathematics and science. However, in the areas of English and social science the overlap was judged to be 34 percent and 39 percent respectively. The average for all areas was 30 percent (Blanchard 1971).

Although some repetition is desirable, these studies suggest a high degree of unplanned and unknown duplication that could be reduced. One way to correct the situation would be to eliminate one or two semesters of study at the high school-college interface.

Advocates of more efficient educational patterns point out that wasteful duplication occurs at other points in the system. The student

moving from the two-year college to a senior college experiences delays and frustrations, as do senior college graduates entering graduate or professional schools.

4. *Personal Benefits.* American society is highly credential conscious. Increasingly, college attendance or a bachelor's degree is a requirement for basic or routine employment, while professions or would-be professions require advanced degrees and longer periods of training. As President McGill of Columbia and others have pointed out, this has tended to force students to defer adult responsibilities and careers. It also argues against colleges advancing the level of freshman work to eliminate duplication, while maintaining the traditional four-year degree requirement. Such pressures have alienated many students and caused countless others a painful period of academic preparation. What is suggested is a shortening of the undergraduate period without a diminution in quality to allow young people to move into employment or graduate/professional schools at a younger age.

> The dispensing of more knowledge to people must be balanced by the equally central needs of people themselves: the drives to be responsible, useful, loved, active, or engaged. . . . How many persons could endure 20 or so years of unrelieved classroom study, no matter how urgent the intellectual or cultural matters? To impose this on persons during their most vigorous, athletic, questioning, adolescent, and young adult years would seem only to invite Dostoevskian revolts and anti-social outbursts (Boyer 1972a, p. 279).

The student dropout problem is particularly serious, not only for the individual student but also for the institution. Student attrition is a matter of national concern. Precise attrition figures at the institutional and particularly at the national level are extremely difficult to obtain. Most studies suggest that as many as 50 percent of students entering college do not complete the baccalaureate degree or do so well beyond the traditional four-year period. By shortening the time needed to earn a degree, a higher percentage of entering students would be encouraged to complete their course of study (Carnegie Commission 1971a, 1972a, 1973b).

Another advantage of time shortened degree programs is the extra time it can provide the student. By saving a year and being ahead of the traditional student, many young people may be more inclined to take time to know themselves and to explore the world via jobs, travel and/or special projects. This could provide a rewarding opportunity for many young people to test themselves in the world, seek to apply their academic knowledge, and continue their education by experiential means. One college has proposed retention of the four-year requirement for the degree with only three years of actual study.

This encourages, even forces students to try other things and other ways to meet their needs (Whitla 1972).

The emotional and psychological strain that accompanies the long period of formal study required by society would not be entirely solved by time shortened degrees. In fact, an attempt to reduce time by heavier course loads and year round attendance might even heighten the pressure on some young people. Other techniques of reducing time by the elimination of duplication or the reduction of degree requirements could benefit the psychological health of a large number of students.

5. *Competence Testing.* Competence or performance testing discounts the magical quality of a specific period or place of residence and suggests that once the skill and/or knowledge is defined, tests then can be constructed to measure an individual's level of attainment in a given subject before awarding credits or a degree. Many students accelerate in precisely this way by taking local and standardized examinations. The New York State Regents External Degree Program, for example, permits individuals to complete all requirements for the associate or bachelor's degree by this method.

More and more students will continue to mix credit by examination with the more traditional classroom route to degrees, since credits earned in the former fashion are less expensive, permit the student to experiment with other subjects, or accelerate.

6. *Lifelong Education.* The belief that education is a lifelong process, not something that can be completed in sixteen or twenty years of formal study before going to work, is based on the recognition that the amount of knowledge is so vast that it is impossible to cover everything in the current undergraduate period; and that the rate of change in all academic fields makes much of what has been learned obsolete. The old concept of keeping abreast in your field is being replaced by the need to develop a new field and prepare for a new occupation (Gould 1973; Carnegie Commission 1971a).

In one sense, these developments suggest that education is not something that can be shortened or accelerated, but rather it is lengthened to become coterminous with life. Yet at another level, recognition of education as a lifelong process can result in a more reasonable view of course content and degree requirements. Requirements of the formal period of collegiate study at the bachelor's level might even be reduced, for the degree need not be as concerned with memorization and detail, but could concentrate on basic tools, concepts, and procedures of learning. The old concept of a degree as

a mark of completion of one's education should give way to the recognition that a time shortened, basic degree is the beginning of a lifetime of learning.

7. *Social Benefits.* Allowing young people to move more rapidly through undergraduate and advanced degree programs would not only help individuals and result in the saving of public funds, but it would give the local community, state, and nation the benefit of their skills at an earlier age and allow a longer period of productivity. In some fields, it is even believed that the most creative period comes rather early in adult life (Pressey 1943, 1946).

The social benefits of acceleration are most obvious in certain critical areas of manpower shortage such as medical care. Because of the difficulty and cost of expanding existing medical training facilities, it appears that the best way to increase the number of medical practitioners would be by the widespread adoption of accelerated medical school programs that in some form worked successfully during World War II. Dr. John S. Millis of the National Fund for Medical Education feels that the 12.5 years beyond high school currently required to train a physician could be reduced to 10.5 years without loss of quality.

Similar benefits might occur in other fields. Society pays a heavy price for human talent and skill that is neglected, underutilized, or confined to an unnecessarily long or wasteful period of training.

8. *Human Development.* Through the work of such scholars as Freud, Erikson, Piaget and others, we are more aware of the developmental process and its implications for our educational system. The traditional pattern and duration of schooling was developed in an era that was not aware of such concepts as adolescence or adulthood. What now is needed is a new system built on these insights.

Realistic, time shortened degree options, not a new time orthodoxy, are supported by advocates of a more responsive educational system. Since people apparently learn at vastly different rates and styles, developmental level is more important than chronological age. As a result, flexible entry and progression is needed instead of continuation of a system that expects students to take the same time to complete degree requirements.

9. *Noninstitutional Learning.* New institutional options and proficiency testing are based on the assumption that classroom instruction is not essential for learning. Older students are particularly likely to have had work and personal experiences of an educational nature for which they deserve academic credit. Members of the armed forces, for example, appear to be likely candidates for such recognition. Almost 50,000 servicemen without formal postsecondary education have taken

the College Level Examination Program's General Examinations and have scored as well or better than the average college sophomore (Burt 1972). Almost 60 percent of the graduates of the New York State Board of Regents External Degree Program have been servicemen.

Most programs that test nonclassroom learning are tied rather closely to the subject content of college courses and do not attempt to deal with different units of information, applied forms of knowledge, or the broad range of experiential learning. Educators who wish to acknowledge and legitimize these approaches hope to free the adult learner from a long period of conventional study that may not even recognize important areas of strength and knowledge. A number of institutions are currently developing portfolio or special assessment procedures to examine and validate a much wider range of learning experiences. This type of broader educational system would not only attract more students but would reduce both the time necessary to meet degree requirements and the total costs.

10. *Local Benefits.* Some arguments that favor time shortened degrees apply only to local needs and campus situations. Local benefits are generally less explicit in the literature on time shortened degrees, but when a specific local need is combined with one of the broader arguments in favor of acceleration identified here, they can greatly influence local decisions.

Single sex institutions that wish to change to coeducational institutions may see time shortened degrees as an opportunity to attract students of the opposite sex within the limits of existing physical facilities and without decreasing the enrollment of students of the sex traditionally served. Some public colleges hope that by adopting a time shortened degree they will avoid becoming an upper division college that services community college graduates. Certain private institutions, by reducing tuition costs to three years, hope to narrow the cost differential with the four-year public institution and attract more students to bolster declining enrollments. Actions of this type might provide only a temporary advantage to those who first adopt the change. As the practice spreads to many or most other colleges, the competitive advantages will diminish or disappear.

Another category of local supporters of time shortened degree options on many campuses take the position that changes in the time requirements or structure should be encouraged in the belief they will lead to a rethinking of the educational system and will generate even more substantive changes.

## Criticisms of Time Shortened Degrees

Most critics of time shortened degrees appear relatively comfortable with the traditional content and time pattern of the American degree system, and the defenders of the traditional time patterns do not have to convince others that current practices should be maintained. A common strategy used by both sides in the debate regarding time shortened degrees is the technique of criticizing, pointing out practical problems, and asking difficult questions about the opposition's proposals and beliefs. This technique seeks to keep the burden of proof on the opposition and thereby lighten the task of defending one's own position. The use of this technique helps explain the lack of communication sometimes apparent in discussions between advocates of time shortening and opponents of the idea. For example, advocates of early admissions concentrate on intellectual readiness while opponents deal almost exclusively with nonintellectual factors, such as maturity and emotional readiness.

Although most opposition to changes in the pattern and duration of the current educational system are based on how such changes would damage the existing system, there are also more radical or special project critics who are displeased because various acceleration changes do not go far enough to alter the existing system, or fail to support some particular reform.

Many of the following criticisms, as in the case of the arguments in support of time shortened degrees, apply primarily to certain types of time reduced programs. There has been no attempt to organize either pro or con positions according to the specific type of program. A review of the various types and categories of approaches described in the next chapter will allow the reader to make the necessary connections with the most appropriate supporting and critical views.

1. *Academic Dangers.* There are a number of arguments and questions in this category raised by the critics of time shortened degrees. Perhaps the most common concern in this or any category is the fear of what changes in the time and pattern of degrees will do to general education, one of the most treasured concepts, if not practices, of most academicians. There is a general assumption that if anything gets "squeezed out" in compressed programs, it will not be the academic major staunchly defended by departments, but general education that has few organized defenders or strong vested interests (Conklin 1972).

Some also contend that college graduates are already overspecialized and what is needed is the development of a more broadly educated leadership and the strengthening of a common basis of understanding and communication for society (Van Gelder 1972, p. 15).

> The idea that general education is not worth four college years seems to me preposterous. If there is anything this nation needs, it is a great infusion of liberal learning, not a retreat from it. I do not deny that college requirements should be modified, curricula enriched, and teaching improved. These things should be done, but liberal learning should continue to be the center of higher education and should be strengthened, not weakened (Bowen 1943, p. 274).

These views are reminiscent of President West of Princeton. He opposed turn of the century efforts to shorten the baccalaureate degree with the warning that it was a threat to liberal education that, while always in peril, was worth preserving (Van Gelder 1972, p. 5). One contemporary critic denounces the three-year baccalaureate as a certificate of specialization (Van Gelder 1972), and others point out that since few graduates take jobs in the field of their undergraduate majors, and changing times require flexibility, it is even more essential to protect and extend liberal or general education (Carnegie Commission 1972b).

Another critical viewpoint in this academic category is based on the fact that, with the explosion in the volume and complexity of knowledge, the role of learning is even more critical and time consuming.

> The knowledge explosion offers, perhaps, the most cogent objection to reducing the educational time sequence. While students are unquestionably learning more in school, the sheer volume of what they might be learning is growing at an even faster pace. The most impressionistic evidence conveys the point. In 1948 . . . the New York Times Index ran to 1,211 pages; by 1970 the total had soared to 2,291 pages. Over 2,000 large closely printed pages are now required merely to list, by author, title, and subject, the paperback books currently in print; and Dissertations in Progress, Scholarly Books in America, and Readers' Guide to Periodical Literature all present a similarly swollen aspect. . . . Such crude indicators do suggest something of what confronts the individual setting out in 1972 to acquire an education (Bover 1972a, p. 279).

This position suggests that no matter how good and extensive the high school learning or how vast the amount of education in life, it cannot keep pace with the growth of information and the need for four years of undergraduate study. It is a point of view that also sees great danger in skipping terms or years of academic work, not just because of the reduction in the total amount of learning accumulated, but because of the gaps in knowledge that such a process creates (Bish 1963).

2. *Social and Emotional Dangers.* Many people believe that a major purpose and concern of education is not just the academic or intellectual development of a student but also his social, emotional, and personal formation or maturation. It is argued that these latter types of changes cannot be hurried, and they do not necessarily correspond with the level of intellectual development (*General Education in School and College* 1952). Thus, a young person who is quite precocious in academic subjects may be quite immature in other ways and therefore unready for accelerated progression.

Another dimension of this same concern for the emotional well-being of the individual is the belief that students should not be separated from age group peers or class. Some critics feel that there is a strong identification with an individual's school class and that to advance a student beyond his age group is to invite social maladjustment and emotional disturbance (*General Education in School and College* 1952).

All of these objections to time shortened degrees have been used in other historical periods. They are most commonly found today among secondary school educators who object to acceleration, particularly early admissions programs that allow the student to skip the senior year and enter college. There are also related objections that stress the negative results that accelerated progression of even able students has, not upon these individuals, but upon their less able peers who lose the leadership and stimulation of their classroom presence. Many of these views are obviously part of the heritage of the progressive education movement of an earlier era.

A second major theme in this emotional-social category focuses upon the idea that the undergraduate period should be a rather leisurely one for students, almost a moratorium for the normal hurried pace and tempo of life (Veysey 1973). The benefits of this "unnatural" pace are thought to be the incubation of ideas by thought and reflection and the opportunity to "find one's self" by a number of exploratory false starts along a variety of academic and career options. It is emphasized that few students enter college with clear or realistic ideas about their futures and that even fewer institutions have sufficient counseling and guidance services to provide significant assistance in personal and academic goal clarification. All these objections are most likely to be raised by college level educators, although some secondary school people and parents would certainly concur.

3. *Elitism.* The criticism of time shortened or accelerated programs for concentration on a small group of gifted students at the expense

or neglect of the less able is associated with some of the progressive education views already described, but it also has a special contemporary basis:

> The rising emphasis today is on equality of education for the many rather than quality for a few. . . . The reaction against elitism and the new emphasis on equality of opportunity for students with diverse abilities is bound to influence attitudes toward a program conducted for a small group of able students. . . . Programs for the gifted no longer have first priority. National attention is now directed to providing equal educational opportunity for young people who do not have the traditional skills of literateness and articulateness or the ability to deal with abstract concepts (Hochman 1970, p. 17).

Professor Hochman was thinking specifically of the effects of this attitude on Advanced Placement Programs in the high school, but his point applies equally well to the "new students" who have become a major phenomena in higher education. We are certainly more aware of and sensitive to the class and social implications of educational policy and practice today than ever before.

There is also a belief that maintaining the four-year period at both the high school and college level will allow weaker students to catch up or at least diminish the gap between themselves and the more advanced. It is also assumed by some that this standard period promotes assimilation of ethnic groups and the economically disadvantaged (Bowen 1973, p. 279). This leveling function is obviously most attractive if you focus on the needs of the average or disadvantaged student. Another form of this concern points out that if college credit were awarded for some work done in high schools, it would penalize students who are in the weak schools. Students in good secondary schools might be allowed enrichment opportunities as long as they do not result in credit or acceleration.

4. *Change Is Not Needed.* There are three dimensions to this attitude: students can already accelerate at most institutions; there is little student demand for such options or programs; and although time shortened programs may be justified somewhere else, it is claimed they are not needed at the commentator's institution or educational level.

The first view maintains that an able and ambitious student can now accelerate in almost any school or college by taking a heavy course load during the regular term or attending special sessions such as summer school. It would be possible to complete a college degree in three years or less by this process; and the gifted student might further reduce the time necessary to earn a degree by passing local

challenge examination. The focus of this view is clearly on the exceptional person, not on the average or typical student.

The contention that there is little or no need for time shortened programs because the student demand for such options is minimal has several interesting aspects. The fact that such programs have not "caught on" in the past is one bit of often cited evidence; but it is also noted that scholarships, loans, and other factors are geared to a four-year cycle and thus support its continuation (CEEB 1972). In addition, the affluent upper middle class find the four-year period pleasant, rewarding, and within their means. President Bok describes Harvard students' reaction to compressed or accelerated programs as one of massive indifference, for almost all students who could graduate at the end of three years elect to stay a fourth year (Bok 1972, p. 16).

Another factor that some feel is partially responsible for the supposed indifference of students is the negative attitude of graduate schools toward such changes. There is no strong evidence that this negative attitude exists but the suspicion that it does is chilling to many.

An amusing third attitude is the tendency for individuals to deny the need or possibility of time reduction at their level while suggesting its possibility or desirability at another level. The high school teacher is inclined to accept a student skipping a year of college, while to many college instructors it seems more appropriate for a student to reduce the duration of the high school program (*General Education in School and College* 1952). Many educators from both levels, however, join together in suggesting that the padding is really located in graduate or professional programs and it is their responsibility to remedy the situation (CEEB 1972).

5. *Time Shortened Degrees Do Not Respond to Basic Issues.* The preceding criticisms have been based primarily on what time shortened programs would do to the existing system. The views in this section are based on what time changes would not accomplish. Critics of this persuasion suggest that most time shortened degrees are temporary bribes that only slightly undermine the current system but primarily divert attention from more fundamental reform.

> Nevertheless, a sizable number of faculty members, senior as well as junior, insists that the curriculum can no longer be justified simply because it exists; they insist, moreover, that it is wrong to make adjustments here and there to relieve strains or make minor improvements: the faculty ought to decide what an educated person ought to know or, perhaps, ought to be like as a fully human being, and this should become the basis of a revised and coherent curriculum. There is talk at Harvard as elsewhere of a three-year BA as the regular pattern, and such talk in turn gives rise to

> the feeling that the whole process is arbitrary: Why three years? Why not five years, or two years? Why not a wholly nonresidential degree, prepared for in any way that the students choose? (Riesman 1973, p. 36).

This reform, which begins with a clear definition of the purpose of undergraduate study and is followed by an appropriate revision of the curriculum that would eliminate boredom and lack of challenge, appeals to many academicians.

The arbitrary nature of any time definition for a degree is also attacked by those who advocate a competence based approach. They see a danger that the three-year degree program would perpetuate the emphasis upon time serving and accumulation of credits instead of the achievement of specific academic and personal objectives (Van Gelder 1972; Conklin 1972; Magill 1972).

Advocates of a number of other changes or approaches to reform education also view the efforts to shorten the time required to achieve degrees as either harmful or of little value. They generally agree that educational goals, procedures to achieve the goals, and methods to determine their accomplishment are the significant questions, not the matter of time.

6. *Fiscal Difficulties.* The discussion of the fiscal implications of time shortened degrees is filled with speculations and calculations about the possible results of various types of programs. Central to the discussion, however, are the fiscal constraints affecting higher education, the increased competition for a limited number of students, the struggle between private and public institutions, and the assumption that all parties would not financially benefit equally or at all from the widespread adoption of time shortened programs.

The student enrolled in such a program appears to be the most certain recipient of financial advantages in the form of savings on tuition and expenses and a shorter period of deferred income; however, critics point out that these savings will be considerably reduced if colleges raise tuition so that a three-year program would cost as much as a four-year program.

Other skeptics feel that even the hope of substantial public savings in the operation of state college systems using shortened degree programs may be illusory due to high start-up costs, low enrollments in the programs, and the added cost of enrichment efforts (Magill 1972). It is also pointed out that the lower level work that probably would be eliminated is really the most economical part of the educational program because of large class size. In many institutions the profits from introductory level work actually subsidize the specialized ad-

vanced work, particularly at the graduate level (Spurr 1970). Savings at one level could therefore lead to increased costs at a more advanced level, which could neutralize the anticipated savings for a public system.

The most sensitive fiscal issue, however, is the effect of time shortened degree operations on the financial health and survival of hard pressed private institutions. Private colleges that are fully enrolled and have a waiting list might benefit financially by time shortened programs, for they could enlarge the number of students served in any four-year period without building additional facilities or adding staff. However, most private colleges are not in this enviable situation and admissions personnel are hard pressed to keep enrollment from dropping even further below the institutional capacity and need. To add a three-year baccalaureate here would only place another burden on admissions directors who would have to recruit enough additional students each year to maintain the enrollment level as well as the tuition income produced by the students who would stay for four years (Stark 1973). In this situation, it would seem financially questionable for most private colleges to adopt such a plan unless they could create enough enthusiasm for the program to substantially increase enrollment or unless they were forced into such an offering to meet the competition of the public sector (Magill 1972).

Time saving programs that eliminate a year of secondary school instead of a collegiate year might be more useful for private colleges; however, critics point out that this only lowers the pool of potential students the following year. Such a plan would also be less attractive because student savings would be considerably less, since no tuition or living expenses would be avoided.

A minor worry to some is the possibility that students "stopping-out" to make nonacademic use of the year they were saving might not return to college or would transfer to another institution.

7. *Dangers to the Existing System.* There are several criticisms of time shortened degrees under this heading. Although they differ considerably, they all see some aspect of the existing educational-social system that might suffer significant harm if certain time shortening procedures were widely adopted.

The impact of such programs on community and junior colleges appears to be generally feared by community college leaders. It would certainly change the relationship between these institutions and the senior colleges, and it might even force many two-year colleges to consider abandoning their traditional role of preparing students for work or further education and becoming baccalaureate institutions (Van

Gelder 1972; Carnegie Commission 1970b). The traditional fit between institutions would certainly become more complicated than it is now. As the community colleges now handle a greater percentage of "new students" who need assistance, they could become even more of a separate, second-track system. There may be other options, such as developing cooperative time shortened programs with senior institutions or admitting students following the junior year of high school, but competitive pressures from other institutions threaten both possibilities.

A second objection to the common use of the three-year degree is the harm this might do to the liberal arts baccalaureate, one of the most successful offerings in the American degree structure. While many degree titles are confusing and receive only limited recognition, the Bachelor of Arts or Bachelor of Science degrees are universally accepted, and are based on a four-year standard. While some flexibility for outstanding students may be possible, Spurr and others feel major changes could endanger the credibility and acceptance of the basic baccalaureate degree (1970, pp. 24-25).

Other educators are fearful that widespread adoption of three-year degrees will do equally serious harm to the integrity of the four-year undergraduate college. This view lays stress upon gradual evolution of institutions and seeks to avoid sudden disruptive change.

A final concern is the possible social disruption caused by speeding the flow of students into an already tight job market (Boyer 1972a). The idea of keeping students in the educational system for a year longer may be of some merit. A creative opportunity for public service would have to be developed for young people as a transition from school to regular employment before this concern can be dealt with.

8. *Miscellaneous Criticisms.* A number of comments not related enough to be included in previous categories or broad enough to constitute their own separate category are considered under this heading. Several of the attitudes are more emotional than reasoned criticisms, for they see time shortened degrees as only another piece of the larger problem of unwelcome change.

For example, the concept of time shortening causes some higher education people to assert that options and freedoms already have gone too far and that educators should have the courage to exercise their best judgment of what students really need (CEEB 1972). The implications are rather clear that what they need is not a new degree structure but a perpetuation of what now exists.

Others blame the high school for problems of student unrest and claim that many secondary schools only provide "fun" things during the senior year and that this makes it difficult for the students to accept the rigors of getting a college education (CEEB 1972). This is an interpretation of student discontent that discounts the theory of boredom and duplication on which some time shortened programs are partially justified.

Critics also calculate that a three-year degree would increase the proportion of peripheral work. Admissions, matriculation, counseling, graduation, placement, and similar activities would continue to require as much time, while the teaching function would decline in relative terms. Some fear the professor would have to perform more administrative duties and his professional life style would then resemble that of the high school teacher (Conklin 1972).

It is also charged that there is little sound evaluation of time shortened programs or serious support even by advocates of the idea. Individual programs may have an assessment component, frequently in the hands of unskilled or biased evaluators, but there has been little done on a national scale (Bok 1972). The situation certainly enables many to take the position that it is too early to judge the merits of time shortened approaches and, therefore, it is best to preserve the status quo.

## Approaches to Time Shortening

Approaches to reducing the time necessary for completion of a student's formal education are extremely diverse in philosophy and technique. They range from taking a one-term extra or overload course to proposals for a major curricular restructuring that creates a degree program the capable but not necessarily gifted student can complete in significantly less time without an overload or special work.

The variety of approaches to the meaning and scope of this topic are attested to by the number of different organizational groupings used in articles or books dealing with the subject. Some authors, such as Bowen (1973), use the level of education (secondary, baccalaureate or doctoral) as their main groupings. However, this is unusual, for most authors who take an overview of the topic do not deal with graduate programs. Also, most authors prefer a four-part organization and use functional groupings that cut across traditional educational boundaries.

Allen (1973), for example, uses compression, early admission, credit by examination, and restructuring as his basic groupings. This is similar to Magill (1972) who deals with the topic under the headings of compression, advanced standing, cooperative high school-college programs, and revised degrees. Other authors, such as Bersi (1973), prefer curricular reform and revision, high school-college cooperation, advanced standing, and individualized approaches. Bersi and others exclude compressed programs from their treatments, as they do not believe this approach falls within the scope of genuine time shortened designs. The directors of Carnegie funded time shortening experiments favor a more detailed five-part grouping of early admission, combined early admission (dual enrollment in college and high school), credit-by-examination, streamlined curriculum, and self-paced, individualized degree programs (Giardina 1974).

The system of organization used in this paper to describe the variety of time shortened activities will be: compression, testing, college-high school articulation, revision of degree requirements, and graduate or professional developments. These groupings emphasize a broad approach to the topic, including traditional compression techniques, radical proposals for major restructuring of the educational system, and developments from secondary level through doctoral pro-

grams. As is the case with almost any organizational system, the categories are somewhat arbitrary and there is overlapping between divisions; but it does provide a means of describing the type and variety of approaches used to reduce the time to earn an academic degree.

There will be no attempt to indicate the popularity of any specific approach either by stating the number of institutions using a technique or by providing a listing of specific institutions that have adopted such a practice. Where institutional names and programs are mentioned, it is for illustrative purposes only, as this study is based primarily on a survey of the literature. It has not involved nationwide campus visits or highly detailed and analytic studies of great numbers of individual programs. The question of general popularity of approaches, the types of institutions associated with them, and similar issues are addressed in the following chapter.

1. *Acceleration by Compression.* This approach maintains normal graduation requirements but enables students to meet these expectations in a shorter time by more intensive study and a longer academic year. The total hours or weeks of academic work are not substantially reduced, but are compressed into a shorter period, thus allowing students to graduate earlier than they would in a less intensive, more typical pattern.

The most common pathway to acceleration by compression is for a student to take a heavier academic load than normal in either credit hours or course units. The typical four-year, 120-credit program assumes a fifteen-credit load per semester. Many institutions will permit students to carry a more substantial academic workload without special permission or added fees. Others seek to discourage the practice by requiring approvals and/or charging added tuition. Many students make some use of overloads one term, then take a lighter load in another term, or graduate with more than the required credits. Other students who wish to use this technique for acceleration take more substantial and consistent overloads.

There are some institutions today that highlight this compression approach to time shortening and combine the technique with other modifications that permit early graduation. Ripon College, for example, has an option that allows students who maintain a 2.75 average to carry eighteen or nineteen hours per term and complete a slightly reduced, 112-credit program in three years. There are restrictions in this program, however, as all work must be done in residence, with no advanced standing credit accepted (Magill 1972).

The use of summers for academic work that permits acceleration is

also familiar. The practice has been limited not only by tradition and the desire for a vacation from intellectual pursuits, but also by the fact that many young people need to work during this period to help subsidize their education. Classroom and dormitory facilities that were not constructed with summer occupancy and comfort in mind also discourage many individuals and institutions from using this approach more fully.

A variety of pressures are causing many institutions to reconsider and experiment with ways to utilize the summer months. Muskingum College (Van Gelder 1972) and others seek to interest more students in summer study by offering a lower tuition rate for courses taken at that time. Dartmouth offers a three-year option that maintains the same educational exposure as the four-year program by requiring students to attend one or two summers. Yale University's Committee on the Summer Term recently suggested the establishment of a thirteen-week summer term that would offer distinctive courses and be required of all undergraduates sometime before their junior year. As proposed, the Yale plan would not actually lead to time shortening because students would be expected to take a term off during the regular academic year. It would, however, allow the college to increase enrollment in an economical manner, and it would permit students to have an off-campus work, study, or travel experience (Boell 1973).

A system of more frequent admission to the college is another undramatic approach that would allow some students to save time and have more flexible options. Some institutions such as Duke University are just beginning to allow students to start collegiate work in January ("Innovations" 1971), but most colleges have offered this option for some time. It allows students who complete high school at mid-year, leave military service, or for other reasons decide to enter college, to do so without waiting for a summer session or the fall term. Most medical schools do not offer this flexibility however, and have only one entering class per year.

A more modularized academic program could also increase the flexibility for entering and leaving the system. This could create more entry and exit options for the individual and might result in time saving.

Several other academic calendar changes could result in earlier graduation. Extending the length of existing semesters was suggested by the Bressler report at Princeton (Bressler 1971b). The resulting academic year, organized into three periods, would begin in early September and end in late June. This would allow students to complete a bachelor's program in three years without a reduction in

actual weeks of instruction (Princeton currently has a rather short academic year) or without the need for a summer term. The rather widely used January term or 4-1-4 Plan, adopted primarily as a device to end the first semester before Christmas and allow experimental offerings (including off-campus field trips), could also be developed into this type of accelerated program.

An even longer academic year based on a quarter system, trimester, or year-round operation would also permit substantial time saving. The trimester, which attracted substantial interest in the late 1950s and early 1960s, has been used by fewer than one hundred colleges since 1967; but there appears to be some current revival of interest. Year-round operation in the public schools has had an equally poor record. Fewer than a dozen school systems are experimenting with the concept in spite of the attractive prospect of saving students as much as two years time in elementary-secondary school and saving taxpayers a significant amount of money (Withycombe 1972). There has been more recent interest in the wider adoption of the quarter system. Chancellor Dumke of the California State College System has called for increased use of this approach, which has the shortest modules of any traditional academic calendar, since it would provide flexibility and the opportunity to accelerate (Dumke 1971).

2. *Credit by Testing and Assessment.* One of the most useful strategies for reducing the time a student spends in school or college is by utilizing testing and assessment techniques that allow individuals to demonstrate that in some way they have acquired sufficient knowledge in an area or subject to be awarded academic credit toward a degree. Some people believe that competency or performance based evaluation is the wave of the future in higher education (Stallings 1972); however, the development and administration of examinations is not without difficulties. So, for the foreseeable future relatively few students will earn degrees totally in this fashion. However, a growing number of people will mix credit gained in this manner with the more traditional classroom course credits. One result will be acceleration and time shortened degrees. The number of colleges that will award credit by examination has grown significantly, as has the amount of credit that they will grant.

One of the most common approaches to achievement testing is the use of standardized examinations prepared for us on a national scale. Certainly, one of the leading efforts of this type was the development of the Advanced Placement Program, begun in the early 1950s by the Fund for the Advancement of Education. The purpose of the project

was to reduce wasteful repetition in school and college for the student by establishing high school courses and validation tests that would assure the college that the entering student had already mastered certain basic courses and was prepared to move directly into more advanced work. Administering the system since 1955, the College Entrance Examination Board has expanded both the concept and use of the program. A logical outgrowth of advanced placement has been the awarding of credit for knowledge that one demonstrated through testing. The examinations are prepared and graded by committees of high school and college teachers for thirteen subject areas, such as English, American history, and biology. The use of these tests has grown until almost 60,000 high school students annually take one or more exams, and their scores are reported to more than 1,200 of the approximately 2,000 institutions that now recognize the system. A survey of 141 southern colleges in 1970 indicated that over two-thirds of the colleges offered advanced placement, with about half that number also offering credit to the one-out-of-nine entering freshmen submitting AP scores. Private institutions tend to see the primary value of the program as enrichment, but public institutions put greater emphasis upon acceleration benefits (Ferrin 1970). It is difficult to estimate precisely what effect the program has had on acceleration. Most students receiving credit did not obtain enough credit to save one semester of time unless they also took a heavy course load or other time shortening approaches.

While the expanded use of the Advanced Placement Program is impressive, the statistics also indicate that many professors are still reluctant to accept the concept that students can or should be exempt from their introductory courses. There are other reasons why the program is no longer a leading innovation and has not yet reached the potential market of several hundred thousand students per year (Hochman 1970). However, it has provided major evidence that many students can and do achieve college level work in high school and it will continue to offer one useful means of validating this work while many other avenues to improved articulation and acceleration develop.

Another service of the CEEB that is rapidly growing in popularity and use is the General Examinations of the College Level Examination Program (CLEP). These five tests (English, Humanities, Mathematics, Natural Science, and Social Science-History) are not based upon specific high school-college courses or syllabi, but seek to provide a broader measure of knowledge in these areas. Scores are re-

ported on a 200 to 800 scale, with national norms for freshmen, sophomores, and seniors. Individual colleges are also encouraged to develop their own norms for local decisionmaking.

Approximately 150,000 military personnel use CLEP exams each year, with the nonmilitary use of the tests growing dramatically from about 6,000 individuals in 1970-71 to almost 100,000 in 1973-74. Only twenty colleges received CLEP reports on over 100 students in 1971-72, compared to the one hundred colleges that received reports on over 100 students in 1972-73. At least four colleges now administer the CLEP general examinations to all entering freshmen. One of these institutions reports that many of its students find the results a boost to their academic self-image; they begin to think of acceleration and academic achievement as something that might be possible (Conversation with Walter Shea of CLEP, March 25, 1974).

Students can earn up to 30 credits on these CLEP general education tests at Florida Southern College and at many other institutions (Burnette 1971). San Francisco State College administered the exams without charge to all 1,300 entering freshman in 1971/72 and awarded a full year's credit to 230 students and substantial credit to many others (Whitaker 1972).

Not surprisingly, many members of the California State College faculty, particularly in the field of English, objected to these tests as improper and inadequate. The critics endorsed the principle of properly constructed and properly administered challenge examinations, however, and faculty members of the California State University and Colleges English Council worked with administrators and Educational Testing Service personnel on the development of a new English Equivalency Examination composed of a 90-minute essay graded by the English faculty and a 90-minute CLEP test on the analysis and interpretation of literature. The examination was administered to over 4,000 students on nineteen campuses in spring 1973 and resulted in college credit for 1,336 students (White 1973).

The University of Utah has also been a major user of CLEP tests and has helped more than 1,300 students trim a year from their baccalaureate programs (Burt 1972).

There are other standardized tests used to validate learning for college credit. For example, the New York State College Proficiency Examination Program has been in operation since 1963 and has granted almost 60,000 semester credit hours in over 21 subject areas. Almost 3,000 of these credits have been applied in the past three years to Regents External Degree Programs at the associate or bachelor's degree level. CLEP credits also are widely accepted by colleges. Since

1968 thirty-eight community colleges and 121 four-year colleges have granted student requests for credit on the basis of these examinations.

There is also a movement to develop local examinations for a variety of purposes. Departmental or divisional exams may give local faculty a greater sense of involvement and perhaps an added appreciation of the time and cost of test construction. Charles Dumke of the California State College System has suggested changes in the faculty workload and credit system to encourage staff to do this development work and provide assistance to students preparing for exams (Dumke 1971). This concept of the faculty as an ally of the student in his preparation for examination is appealing to many. Local examinations may also provide testing of unique aspects and goals of the local curriculum. This can also be accomplished by supplementing standardized examinations.

One area that is particularly dependent upon local evaluation is the assessment of experiential learning. This is a topic of increasing interest and experimentation as colleges seriously seek to tap the adult market, partially as a result of the leveling off of traditional age group enrollment. College efforts to respond to the educational needs of adults may be a major force for change in higher education. Many of these individuals have substantial knowledge acquired in nontraditional ways and, in many cases, not fitting conventional academic units; hence, this knowledge is not readily susceptible to standardized testing. Adults are also quite concerned with time and the cost of a degree program (Gartner 1969). They are inclined to seek and use acceleration techniques of compression, competence testing, and program restructuring. Changes and developments in any of these areas for adults could soon be extended to the conventional undergraduate audience. Portfolios, work credit, and special assessment systems are already familiar in many areas, and some institutions will allow one-third or one-fourth of graduation requirements to be awarded in these nonconventional ways.

A final topic that must be briefly mentioned in the testing category is the external degree movement. The New York State Board of Regents External Degree Program is the best known project of this type. It is based on the belief that it is what an individual knows and can demonstrate that is important, not where or how it was learned. The associate or bachelor's degree can be earned in this program by a combination of college courses and proficiency tests, or entirely by examination without any contact with a college campus or classroom course. Other states are interested in the idea and are seeking to affiliate with New York or develop similar programs. It is

not an easy route to a degree, but it does provide an option for many. It may also be an avenue to acceleration, if not in terms of the conventional number of years, then in terms of the time it would have taken to complete a degree by traditional means while fully employed or serving in the military.

3. *High School-College Articulation.* A third broad approach to time shortened degrees speaks directly to one of the major arguments for structural modifications and acceleration: the substantial duplication of academic work in the last years of secondary school and the first years of college, in addition to the readiness of many young people for the challenge of collegiate work prior to graduating from high school. Presently, this is an area of great activity and experimentation. Developments will be discussed under programs that provide collegiate level instruction in the high school, programs that enroll the student in college prior to high school graduation, dual enrollment systems, and general improvements in school-college articulation.

College courses or programs in the high school that do not require special standardized test validation are offered primarily under bilateral agreements between a college and a local secondary school. College instructors come to the school and teach the baccalaureate courses to selected students. Some of these programs now provide a complete undergraduate year for the students enrolled. One of the advantages to this arrangement is that it allows students to stay with their peer group in social and athletic activities while moving ahead academically. Students receive their high school diplomas at the end of the year and also have substantial college credit. They may enroll at the local institution that provided the college level work or at another postsecondary school that will accept the college transcript credit.

One of the possible objections to this approach comes from some high school teachers who feel qualified and anxious to offer these college level courses. Colleges such as Appalachian State in North Carolina and Syracuse University in New York State are working with local schools to train secondary school instructors to teach college courses in the high school for which the respective colleges will award credit (Giardina 1974). It is also possible that these bilateral arrangements will eventually be replaced by a system of regional accreditation that will permit certain high schools to offer introductory baccalaureate work without prior approval of individual colleges (Carnegie Commission 1973a).

Another approach to eliminate wasteful duplication and allow students to move at a faster pace is early admissions to college at the end

of the 10th or 11th grade. This is not a new idea. The University of Chicago has offered this option in the past and at Shimer College in Illinois as many as 40 percent of some entering classes since the 1950s have been early admissions students. What is new is the increased number of colleges now offering this option to able, but not necessarily gifted, students. Even some community colleges allow students to enroll a year early for the associate degree. Frequently the student's high school will award the diploma at the end of the first year in college. Some states such as New York award a proficiency diploma if an individual high school will not award the local diploma to a student who has successfully completed one year (24 credits) in a college program.

There are also summer trial programs after the junior year of high school for secondary school students to attempt college work. If they do well, they are allowed to enroll as fulltime college students in the fall; or if they wish to return to their high school for the senior year, they have college transcript credit for the summer work (Bersi 1973, p. 117).

An interesting contemporary variation of early admission is when the college provides high school work for the early admittees. This is done to remove the student from a poor secondary school system that would only diminish his chances for eventual success in collegiate work. It appears that entry into these special programs is best at the end of the 10th grade, rather than at the end of the 11th grade. This allows remediation to begin earlier and also coincides with the point at which a great many high school dropouts occur. These programs are geared to an urban setting and they may result in some eventual acceleration; however, that is not their primary purpose.

Dual or concurrent enrollment programs are also much more common today, although there are a number of variations. According to a study of 141 southern institutions, one-half of the public four-year colleges and one-fourth of the public community colleges had summer and dual enrollment programs for high school students (Ferrin 1970). Florida has been particularly active in encouraging high school seniors to concurrently enroll in community college courses (Van Gelder 1972). Midland College in Texas provides two college courses per term for several hundred high school students (Langford 1973). Some of these programs bring students to the college every day or on Saturday for a few credits of work. There are other reciprocal arrangements in which the college accepts the work being done in the high school for college credit and the high school accepts the college work for diploma purposes (Bersi 1973, p. 47). As fiscal-legal questions about

counting students for school aid formulas are clarified and resolved, this approach to time shortening is almost certain to expand.

Although many current aspects of school-college articulation have been cited, there is a growing recognition that the interface of these two sectors of the educational system must be improved for both educational and financial reasons. Some believe that one of the important by-products of the programs mentioned will be the bringing together of secondary and college administrators and faculty.

Better communication may result in clearer identification of mutual problems and lead to more effective and efficient education for the student. One encouraging recent development was the announcement by the New York City Board of Higher Education, which controls the City University system, that they wished closer and better relations with the Board of Education to develop a coordinated program of education from prekindergarten to the postgraduate level (Buder 1974). With the open admissions policy of the City University, it is apparent that to maintain and strengthen the university, there must be cooperative efforts to improve the schools. Some of the suggestions for cooperation include faculty exchanges, summer programs on campus, greater use of schools as laboratories, entrance of qualified high school students into the City University at the end of the junior year, and closer coordination between high school-college programs in the same academic area. This is an agenda for more effective and efficient education that would save time, money, and people.

4. *Educational Restructuring and Curriculum Revision.* There has been an almost total absence of major academic restructuring associated with time shortened degrees. The only possible exception is the establishment of a few intermediate or middle colleges which combine the last years of high school and the first years of college into a new educational unit. This is not a new idea, but it had been rather dormant until the 1968 Four-School Study of Andover, Exeter, Hill and Lawrenceville suggested there was educational and psychological merit in grouping 16 to 20 year olds together in an education unit which would continue through the second year of college (College Entrance Examination Board 1970). This plan would reduce curricular duplication and bridge the traditional gap between the 12th grade and the first year of college by eliminating it. It might also give liberal education a new lease on life and leave specialization to the upper division years. Simon's Rock in Great Barrington, Massachusetts, has been experimenting with this new pattern for several

years and seeks to reduce the time required to achieve the baccalaureate (Ziegler 1974; Magill 1972; Carnegie Commission 1973a). Another use of the middle-college concept will soon be tried at LaGuardia Community College in New York City to help students poorly prepared for college work.

There have been many other proposals for major structural changes. Paul Woodring and the Carnegie Commission have both suggested a three-year bachelor's program based entirely on liberal arts that even some community colleges might offer, followed by a specialized two-year master's degree program (Van Gelder 1972, p. 9-10; Carnegie Commission 1971a). St. Louis University has projected an "1818" program that would eliminate one year from the first eight years of school and save another year in the second eight-year period by improved articulation (McGannon 1968). F. Champion Ward and Carl Kaysen have advocated a three-year high school program followed by a three-year liberal arts bachelor's degree (Spurr 1970). Professor Whitla (1972) at Harvard and Professor Dahl (1972) at Yale have expressed interest in a B.A. awarded after three years of residential study and one year of travel or off-campus independent study. Alexander Mood (1973) has made the more radical suggestion that everyone attend the first year of college, with most students then leaving for employment but returning at various points throughout their lifetime. Whatever their merit, none of these suggestions has been implemented.

There has been more curricular revision than structural change associated with time shortened degree programs, but most of these modifications are not a reduction in the number of credits required for graduation but are changes that allow students to meet traditional quantity expectations in less traditional ways, such as competency testing, credit for experience, early admission, individualized programs, and independent study.

Of the 243 colleges listed by Bersi (1973) as having some form of time shortening options, only about two dozen reported significant curricular revisions. Most of these changes involved the reduction of time spent in general education by the creation of special interdisciplinary courses or programs. There is also a trend to increase program flexibility through more individualized or contractual approaches. These changes allow some students to save time, but most of the limited number of ninety-hour bachelor's programs deal with small numbers of selected students who are quite able and are allowed to waive normal credit expectations on the basis of test scores or special work. There has been great effort in most so called "three-year programs" to maintain learning expectations that are equivalent to the

traditional four-year program, even if the formal credit hour requirements are reduced.

5. *Graduate Programs.* Special attention must be given to this area, for although the necessity for graduate/professional study has been a major factor in the elongation of the period of formal higher education, relatively little attention has been devoted to the efforts being made at that level to reduce the time necessary to earn advanced degrees. The following highly selective survey will examine developments at the master's degree level, in Ph.D. programs, in medical education, and in legal training.

The most common time shortening approach used at the master's degree level is the creation of a program that integrates the requirements for the advanced degree with those of the baccalaureate program. Many of these dual degree programs can be completed in four or five years. Bucknell, for example, offers a four-year BA/MA program in biology that requires an intensive course load and utilizes summers for research (Carnegie Commission 1972a). The City University of New York also offers a number of dual BA/MA programs. The combination of liberal arts bachelor's programs with graduate professional work in engineering, business, or education is also quite common. Many of these arrangements require that certain professional core requirements are completed at the undergraduate level and permit undergraduates to enroll in graduate level courses (*Report of the Commission on Undergraduate Education* 1971; Lindvall 1962). Other forms of compression and improved curricular articulation are used; however, there has been very little use of testing or experiential learning to accelerate graduate level education.

There has been no significant development or attempt to reduce the time required to earn the Ph.D. degree. The average period of time to complete this degree is approximately seven years for those in science and twelve years for those in the humanities (Harvey 1972). The delay is most commonly attributed to the candidates' lack of funds, but even during the relatively affluent 1960s and in special programs designed to support program completion there was relatively little change (George 1971; Boyer 1972a). These delays are apparently more associated with the attitudes and expectations of both professors and students. The current surplus of doctorates in many fields is not likely to provide strong incentives for changes that would permit or encourage acceleration.

Two new graduate degrees have been introduced that some believe will prove beneficial. The Master of Philosophy degree is now being granted by Columbia University to everyone who has completed all re-

quirements for the doctorate except the dissertation. This is not a consolation degree, but a recognition that many of those who will finish the doctorate can benefit from a graduate credential before the dissertation is completed.

The Doctor of Arts is another new credential. It is now offered by approximately two dozen universities with similar programs of different titles offered by many others (Koenker 1974). These programs are at least three years in length and seek to prepare the student for postsecondary teaching. Course expectations are similar to the Ph.D. and although, in theory, the research requirement should be less, the press to gain respectability by equalling or exceeding the Ph.D. model is very strong. It appears unlikely that the D.A. will substantially alter or shorten the road to the doctorate.

In the field of legal education there has been considerable discussion with regard to revision of the curriculum, thereby reducing the time necessary to achieve the Doctor of Jurisprudence; however, little change has occurred (Stevens 1970). The rather recent adoption of the doctoral title has probably made change more difficult. The change to a two-year program would only further strengthen the belief of many that the law school doctorate (J.D.) is an inflated credential.

There are law schools that now admit some students after the junior year of college, but only a few have experimented with the two-year legal program (for example, at Stanford University). This is in spite of the fact that the curriculum committee of the Association of American Law Schools suggested the approach and California has considered allowing students to take the bar exam after two years of law school (Stevens 1970). The existence of this validating examination system should encourage more flexible progression, but heavy pressure for enrollment in law school, the relatively low cost of opening and operating new law schools, combined with public apathy may give stronger support to the status quo.

A field where the public has not been apathetic is medicine. There has been a strong demand for more physicians. One of the quickest and least expensive ways to increase the supply is by shortening the time necessary to earn the M.D. (Peery 1969). Another powerful encouragement is the Comprehensive Manpower Act of 1971. This legislation provides a bonus for acceleration in connection with federal capitation payments to dental and medical schools by funding institutions on the basis of a four-year program, even for those students who graduate in a shorter period of time (Carnegie Commission 1972a).

The traditional pattern of a medical class entering in September

and graduating forty-five months later is now being challenged (Blumberg 1971). More than a quarter of the 108 medical schools allow students to graduate in less than four years (Boyer 1972a). There are some experimental programs that seek to provide the M.D. to highly selected students five or six years after high school graduation. (Carnegie Commission 1972a).

Almost all types of time shortening approaches are being tried in medical education: early admission, advanced standing compression, and better curricular integration. There are also efforts underway to rethink and revise the post-M.D. requirements for internship and residency that now add many years to the total period of training (Carnegie Commission 1970a). Other professions might benefit from a close study of time shortening developments in medical education.

## Analysis

Previous sections of this report have discussed the historic background, pro and con arguments, and techniques of time shortening approaches to the completion of academic programs. Attention will now be directed to more specific questions. Who is currently offering such options? What approaches are most common? What is the extent of student interest? What is the status of research and assessment activities? What leadership is identifiable in the movement for educational acceleration?

*Availability of Time Shortening Options*

The question of which institutions are offering time shortening options is not easily answered. In the broadest use of the term, "everyone is doing it"; almost all institutions allow some form of acceleration by compression or other means. Perhaps a more refined question is: What institutions offer these options in an organized or conscious fashion? There is no comprehensive or accurate data on this point. Information is particularly sparse at the community college and graduate levels. No survey of acceleration practices in the former category has been discovered, but some estimates can be made from secondary evidence. For example, an examination of the 1972-73 list of the 105 colleges receiving 100 or more CLEP score reports indicates that only fourteen community colleges were included, and that ten of these institutions were in the state of Florida (two of the schools having over 1,000 test scores each). Undoubtedly, many other two-year colleges receive some CLEP scores and use other standardized tests, but there is a strong impression that credit by examination is not substantial at this level. There is also limited use of the Advanced Placement credits in community colleges because relatively few of the students with this type of high school background enter these institutions. There is only scattered evidence of cooperative programs between community colleges and local high schools; however, there is probably an increase in these arrangements and in the use of experimental early admissions programs. Compression opportunities are more widely available, but there is little evidence of individualized programs or curricular revisions that facilitate acceleration at the community college level.

The national statistics on time shortening developments in graduate programs are even more sparse than those for the community colleges.

A 1968-69 survey of 368 graduate schools (Mayhew 1970, p. 23) indicates that seventy-seven of the respondents believe that the shortening of time necessary to complete doctorates would be one of the significant innovative elements in graduate education by 1980. There is, however, no evidence (or even a suggestion) that such changes have occurred. In the two professional fields examined, there is little evidence of significant time shortening options in legal education, while the education of physicians has clearly been effected. Approximately one-third of the slightly more than one hundred medical schools allow the possibility of acceleration by a number of routes, such as compression, curricular revisions, and improved articulation practices. There has also been some change at the master's degree level, for the number of dual BA/MA type programs appear to have increased, although no national statistics are available to support this impression.

Data on the number and types of institutions offering time-saving opportunities at the bachelor's level is not ideal but it is considerably more extensive and detailed. The best survey of developments at this level that has been done thus far (Bersi 1973) covered the 1,400 accredited four-year colleges and universities in the *Educational Directory: Higher Education 1972-73*. Of the 1,008 colleges that responded, 243 described proposed or operational time shortening programs on their campuses and indicated an office responsible for the activity. Approximately 100 of these colleges were public institutions. The geographic distribution of the 243 colleges indicates the national scope of time shortening practices. Eighty of the institutions were in the Eastern United States, 65 in the Midwest, 64 in the South, and 35 in the West. New York State with 27 schools led the list, followed by Illinois 17, California 15, Pennsylvania 13, Massachusetts 10, Michigan 10, and Florida 10 (Bersi 1972).*

The Advanced Placement Program, although involving more schools in the larger states, is also nationwide in scope, with at least one secondary school in each state offering the program. New York has 511 schools involved, California 333, Pennsylvania 219, New Jersey 214, Illinois 172, Massachusetts 167, Connecticut 124, Maryland 106, and Michigan 105 (College Entrance Examination Board 1973). Utah, with 40 secondary schools using the Advanced Placement Program, has the highest per capita involvement in both this program and the CLEP examination program.

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An asterisk (*) following this and other references to the Bersi study indicates that the information cited is not presented in that form by Bersi but it has been so categorized by the author based on data in this study.

Of the 105 four-year colleges receiving over 100 CLEP score reports each in 1972-73, about one third were in the South and one third were in the Midwest. Western schools were third in this listing and Eastern institutions ranked fourth (College Level Examination Program 1973). These test-use statistics can change rapidly, but they are suggestive of certain regional variations.

A survey of about 100 colleges taken in 1972 indicates that private institutions were somewhat more conservative in the use of time shortening testing practices than were the public institutions. Only about 93 percent of these private colleges granted credit for CLEP examinations, compared to 77 percent of public institutions that did so. Sixty-eight percent of the public institutions also reported local examinations for which they gave credit, while only thirty-eight percent of private institutions in the survey provided this option (College Entrance Examination Board 1972).

The general picture that emerges from this variety of sources and surveys is of a nationwide but unorganized movement to provide time shortening options at both public and private institutions. Perhaps as many as one-fourth of all four-year colleges give enough attention and provide substantially enough options to be considered institutions with time shortened degree options that go beyond the routine. Few high prestige private institutions are included in this list. In terms of numbers of students involved and the scope of opportunities for acceleration, state colleges lead the way, particularly in New York, California, Florida, and Utah.

*Frequency of Specific Approaches to Time Shortened Degrees*

Acceleration options provided by American colleges vary greatly. Based on Bersi's survey (1973),* they can be grouped into the following categories, listed in decreasing order of availability: testing, compression, modified curriculum, concurrent enrollment, individualized programs, early admissions, and experiential learning. This ranking is based on the 243 colleges that declared or proposed time shortening activities. It does not include two-year colleges or specific reference to graduate studies.

1. *Testing.* Some type of testing activity that would allow students to gain credit is offered by almost 70 percent of the 243 institutions. These activities are listed under a number of titles, such as challenge exams, equivalency exams, departmental exams, proficiency exams, or competency testing. CLEP and Advanced Placement tests were most commonly employed, but other standardized and local instruments were cited.

This approach is taken by Southern Methodist University, which uses precollege testing to identify superior students through the use of national merit, scholastic aptitude, and advanced placement tests. Students scoring at required levels on these tests and who are in the top quarter of their high school classes are awarded 30 credits and enter a three-year degree program. Students that do not qualify under this program may be awarded credit on the basis of Advanced Placement tests and/or CLEP general and subject examinations (Bersi 1973, p. 111-113).

2. *Compression.* The second most common approach to acceleration is by compression. The Bersi study indicates that one half of the colleges active in time shortening provide summer study and/or overloads during the regular academic year; however, few describe their efforts as year-round operations. At a number of colleges (St. John's University in New York, Lamar University in Texas, Peru State College in Nebraska, and Pfieffer College in North Carolina) these techniques are almost the exclusive means of acceleration. Other schools, such as Ohio University, offer summer school and overload options in combination with early admission, advanced placement, credit by examination and correspondence study.

3. *Curricular Modification.* The third most frequent approach to time shortening is curricular modification. This includes a variety of curricular revisions, changes in degree requirements and, in a few cases, actual reduction of degree requirements. Slightly fewer than one-third of the colleges mentioned in the Bersi study could be included in this category. Several examples of these approaches may be cited. The California State College at Dominquez Hills organized a Small College which seeks to reduce subject overlapping by dividing the academic program into general education, a field of emphasis, and a thematic project. This experimental division also uses a modularized, competency based approach. Francis Marion College in South Carolina combines the freshman and sophomore years by reducing degree requirements and by employing intensified interdisciplinary seminars for superior students. The State University of New York College at Brockport has created an Alternate College that permits students a greater role in curricular design. It allows acceleration by personalized self-instruction, testing out of aspects of a modularized curriculum, and by a reduction of the credit requirement. The College of St. Francis in Joliet, Illinois, offers a somewhat similar six-semester thematic program that utilizes individualization, interdisciplinary seminars, off-campus study, and a reduction of credit requirements.

4. *Concurrent Enrollment.* The fourth most available route to time shortening is concurrent enrollment. This option is offered by approximately 20 percent of the institutions in the Bersi study. These arrangements include: combined BA/MA programs, dual enrollment in high school and college, and cooperative arrangements between high school, community colleges, and four-year colleges and universities. Superior students at Lehman College of the City University of New York may design a combined four-year program that will result in the simultaneous awarding of the bachelor's and master's degree. This approach is also used at John Jay College of the City University. It includes 30 hours of graduate courses and a thesis within the 128 hours required by the dual program.

Appalachian State University in North Carolina has its instructors work with area high school teachers to develop college level courses offered in the secondary school for college credit; some students actually enter the college as sophomores. A similar result is possible at the New York State University College at Fredonia. Selected senior high school students may take courses at the college for which they also receive high school credit or vice versa. The result is the simultaneous completion of the senior year of high school and the freshman year of college.

Another example of a cooperative program is the proposal by Florida International University to implement a program with the Dade County Public Schools and Miami-Dade Community College to offer a time shortened degree in Liberal Studies. It would feature general education courses that meet both high school and associate degree requirements, and the acceptance of the community college credentials towards the fulfillment of all but 67.5 credits of the university's bachelors degree (Bersi 1973, p. 121-122).

5. *Individualized Programs.* A fifth approach to time shortening, almost as popular as concurrent enrollment, is individualized programs. This approach overlaps with other categories in some areas. For example, proficiency testing might be used as part of an individualized program. The main focus of most individualized programs, however, is independent study, self-pacing, close contact with the faculty, and a contractual agreement. Raymond College of the University of the Pacific allows senior students to earn independent study credit for group inquiries. The New College of the University of Alabama utilizes independent study as one approach to the contractual study agreement the student negotiates with his or her advisory committee. Saginaw Valley College in Michigan offers student-designed, time shortened schedules that may utilize personalized self-instruction

and independent study with a faculty mentor. The third year of Alfred University's New York College of Ceramics Three-Year Bachelor's Program is primarily based on independent study and a close relationship between the student and the faculty mentor.

6. *Early Admissions.* The sixth most frequent approach to time shortening is through early admissions. This option is usually found at the interface between high school and college. These programs vary in their selectivity and details of operation. Shimer College in Illinois will consider students who have finished the 10th or 11th grade in the same way that it does a regular admission: by individual assessment of their background and readiness for college. Thirty-two percent of the 1972 entering class was of the early admissions category. In this program, the college is authorized to grant the high school equivalency diploma after students have completed one year of college work. A similar option is available in New York State after one year of college; however, the Board of Regents, not the individual college, grants the equivalency diploma.

Seattle University has an early admissions program that requires at least a 3.3 grade-point average for admission. It also requires the recommendation of a secondary school official and the student's parents. Not all programs require high school approval, since this could allow the school to hold back students for self-serving motives. Of course, secondary school personnel sometimes raise similar questions about the college's motives.

New York University has established a new early admissions program. It is open to students who rank in the top half of their school class and have completed certain requirements in English, language, mathematics, science, and history. This less selective program recognizes and seeks to provide special academic advisement and strong peer counseling.

7. *Experiential Learning.* The least available approach to time shortening is the granting of credit for experiential learning. Fewer than 10 percent of colleges in the Bersi survey used this approach, which includes credit for life experience, work experience, military experience, and other forms of off-campus learning. Academic recognition of alternative types of and routes to knowledge has increased in the past few years and the approach has great potential for further expansion. Many of these options are aimed at the adult student who has had more extensive experience. Many colleges and universities granted credit to servicemen returning from World War II. Brooklyn College has granted small numbers of adults experiential credit for almost two decades. The number of institutions recognizing such

learning is growing, and the amount of credit possible is expanding. Although no studies of the subject, now in progress, have been published, a survey of the situation in New York State indicates that almost twenty-four colleges grant from 15 to 96 credits for various forms of experience. Most institutions use a system of examining committees and require various types of written materials (sometimes termed a portfolio) that substantiate the duration of the experience and the resulting learning.

The use of any of the preceding approaches (or combinations of them) can shorten and modify a student's academic program. There are relatively few programs however that are specifically designed to permit entering students to achieve the bachelor's degree in three years. Allen (1973) suggests that there were thirty-four programs of this type in 1973 and that twenty-one more were being developed. Most of them are rather small, however, and utilize early admission, testing, and compression to maintain traditional standards of the quantity of work associated with the four-year bachelor's degree. The three-year bachelor's program at the State University of New York College at Geneseo is probably the largest program of this type, with over 1,000 students enrolled. Although the three-year students do not take freshman courses, they cannot graduate in three years unless they can demonstrate by CLEP examinations that they have general education knowledge equivalent to or superior to that of the students who have taken the regular freshman courses (Meinert 1974).

*Institutional Motives*

Institutional motives for offering time shortening degree options are a fascinating, but almost entirely speculative topic. There are the educational merits suggested by proponents of the idea, and the possible fiscal benefits already described; but beneath these general surface issues, there are undoubtedly many other motives of both an altruistic and self-interest nature that vary from college to college. Some institutions, for example, may seek to attract a different and more desirable type of student. Other groups may hope that such options will trigger broader changes in the educational system. Others may wish to avoid certain circumstances, such as becoming primarily an upper division college for community college transfers. It is probably best not to dwell on the motives for such activities, but rather, turn attention to their popularity or success.

*Popularity of Time Shortening Opportunities*

The future development and direction of time shortening options and programs will be determined, in the final analysis, less by educa-

tional theory or institutional motives than by student election and use of such options. There are prophets who predict great expansion of such student interest and others who see massive indifference on the part of this clientele. It is probably too early to judge who, if either, is correct, for there is little data and few comprehensive statistical reports that describe the present level of student use, let alone predict the future pattern of activity.

Even with more exact data about numbers of students, it would be difficult to make value judgments about the meaning of the statistics. What number represents "significant" student participation? What quantitative level can be established to measure success or failure of time shortening activities? No attempt will be made to answer these questions, but a general estimate of the current level of use will be presented, and motives for student acceptance or rejection of the opportunity suggested.

The use of standardized tests is the route to time shortening that provided the best statistical evidence of student use. The growth in the use of CLEP examinations from fewer than 7,000 in 1970-71 to almost 100,000 in 1974 is one piece of dramatic evidence of increased student interest. The use of Advanced Placement tests has grown from 1,229 students in 1955-56 to 54,778 in 1972-73. While this is a significant number, the use of the Advanced Placement Program may have reached a plateau. The number of students has remained in the fifty thousand range since 1968-69 and has actually declined slightly from a high of 58,828 in 1971-72 (College Entrance Examination Board 1974).

It is more difficult to estimate the number of students using other categories of time shortening. Bersi's study is of some assistance; forty-five of the institutions cited in his survey provided estimates or actual counts of students entering their time shortened programs (Bersi 1973)*. Most of the programs had fewer than one hundred new students per year. Only three or four institutions reported entering groups above the three-hundred student level. The total for all institutions listed, however, was about five thousand students; and there are probably at least that many more in advanced stages of these programs. Also, there may be about ten thousand students in other major but unreported programs, such as early admission and concurrent enrollment. The figure of fifteen thousand to twenty thousand probably represents a generous estimate of the number of students in programs designed to save as much as a year of educational time. If the students using testing, compression and other techniques to shorten and modify their academic programs are added (even allowing for

some overlapping between categories), the total could reach 150,000 individuals who are engaged in some form of time reduction.

There is only limited evidence on the basis of which to predict what increases will take place in the numbers of students electing time shortening options. Forty institutions with existing time shortening programs responded to Bersi's inquiry regarding their anticipated maximum enrollment (1973, p. 11). Approximately seven indicated a goal of over five hundred students, eight projected three to five hundred enrollments, while the majority of institutions estimated programs of under two hundred students. Almost 70 percent of the institutions hoped to reach these projected maximums by or before 1975-76. It may not be unreasonable for these and other schools to project some expansion based on improved and more active recruiting approaches. Most recruitment is now handled exclusively by the general institutional process, and in some cases there may even be hesitation on the part of some admissions officers to "jeopardize" their regular admissions by giving too much time or attention to special programs or options.

*Reasons for Student Choice*

Even more interesting than the number of students who select or reject time shortening opportunities is the question of their motives or rationale for the decision. Forty-two colleges in the Bersi survey (1973, p. 18) reported that 66 percent of the students cited the appeal of an innovative curriculum as a motive for selecting a time shortened program. Sixty-two percent mentioned early entry into the job market, 57 percent attraction of the lower cost, 45 percent promise of close faculty-student relationships, 7 percent the challenge presented, and 5 percent indicated a desire to enter graduate or professional school at an earlier date.

More detailed studies of students at Goucher College and the State University of New York College at Geneseo provide interesting detail. At Goucher, the 129 three-year students were compared with a control group of four-year students (Stark 1973).

The most common reason cited for selecting the accelerated program was the desire to save money. Accelerating students came from a more pragmatic home background in which education was seen as a means to a career rather than an end in itself. Their parents were as well educated as those of the four-year students, but they were more commonly engaged in business careers than in scholarly or professional activities. The accelerated students were also somewhat less affluent,

more likely to have parttime jobs and more often receiving financial aid than their four-year counterparts.

The three-year program students also had a greater sense of direction and upward mobility that expressed itself in the desire to accelerate their entry into careers or graduate and professional school. These students would be primarily identified with the vocational and academic subcultures, not with the more socially oriented group that is dominant on most campuses. There was also evidence that the accelerated students who identified with the academic orientation indicated the greatest feeling of congruence between their expectations of college success and their actual performance (Stark 1973). Those students who originally selected the time shortened program but later chose to decelerate cited the desire to have more time for academic exploration and travel.

Some Goucher students in the accelerated program also cited a desire to escape the educational system as soon as possible as a motive for entry into the program. This may not be incompatible with pragmatic career interests. It may also reflect the stress of the long period of formal education described by Keniston (1972) and McGill (1972).

The general conclusion of the Goucher study indicated that accelerated students could not be identified by the college student questionnaire scales for they did not show greater study skill, more independence, or different extracurricular patterns than the four-year students. The accelerants might not have been the ones who would have been selected on normal predictors, since the key elements of motivation and stable career plans are not readily identified by traditional entrance data. The study did indicate that those who had broken the traditional time pattern in the past by early admission, advanced placement, or other means, were likely to do so again.

Another interesting and perhaps statistically more significant study of student attitudes, motives, and background was done at the State University of New York College at Geneseo in 1973 (McNally 1973). This college has the largest three-year bachelor's program in the United States, with over one thousand students admitted since 1971. The institution has also established control groups of four-year students for each entering class. Comparison has been facilitated by the fact that since 1972 all students entering the college have been eligible to elect the time shortened program.

A study of the 1971 and 1972 entrants revealed that 37 percent of those electing the three-year program cited the desire to enter graduate or professional school early as their primary motive for selecting the

acceleration option. Thirty-two percent cited the desire to save money as the primary motive, another 12 percent indicated a wish to avoid general education courses, 8 percent wished to financially support themselves sooner, and 3 percent were attracted by the idea of an experimental program.

The students not electing the three-year program noted the following reasons as the primary rationale for their decision: their major was not included or provisional teacher certification was not possible (55 percent); it might be an inferior degree (20 percent); it might not allow full participation in college social life (12 percent); and it might not be readily accepted for entry into graduate or professional school (11 percent). Distribution of the second most important reason for rejecting the program gave greater stress to social concern and less emphasis to the lack of opportunity for teacher certification. There was also some evidence in the study that nearly 13 percent of the participants selected the college because it had a three-year degree program.

The Geneseo students were asked if they would make the same decision to participate or not to participate again if they had the opportunity. Approximately 75 percent of the accelerated students indicated they would make the same decision, compared to 56 percent of the nonparticipants. Approximately 35 percent of the latter indicated uncertainty about their decisions, while only 20 percent of the participants felt uncertain about making the same decision again. These general findings were supported by asking each group if they would transfer to the other program if it were possible. Over 70 percent of those in the three-year program rejected the idea, almost 25 percent were uncertain, and only a few indicated a desire to transfer. Approximately 47 percent of the students in the four-year control group indicated a lack of interest in changing programs, 37 percent were uncertain, 15 percent expressed a desire to change.

Accelerated students at Geneseo found their program less repetitious of high school work than did the four-year students; however, the groups differed by only about 6 percent. There are different interpretations of this response; for example, it may indicate that duplication extends well into the sophomore year. There was a more significant difference, however, in the number of times students in the two groups consulted their academic advisors; students in the three-year program used their advisors far more often than did the four-year students. This difference was particularly striking in the first semester of college when 75 percent of the four-year students never saw their advisors.

There appear to be more similarities than differences when the backgrounds of accelerated and conventional Geneseo students are

compared. There were no significant age differences, the size and type of hometown was similar, parents' education and father's occupations were comparable, the type of secondary school identical, and political preferences similar. The three-year students did appear somewhat stronger in terms of high school rank and grades; but the more critical and difficult to measure element was probably motivation and sense of direction.

There are similarities in the Allen survey, the Goucher study, and the Geneseo data, but there also appear to be considerable local variations. Clearly much more research, both in terms of numbers of students and types of programs, is necessary before it will be possible to make supportable generalizations about student motives for the selection of time patterns and types of academic programs. The following paragraphs will elaborate on the current status of both local and national research and assessment activities.

*Research and Assessment Activities*

The survey of material for this monograph did not include an exhaustive study of basic learning research and its implications for time shortening opportunities. Terman's work with the gifted suggests that acceleration is generally beneficial for this type of individual. Pressey's studies of the effect of acceleration on adult life indicates that early entry into professional life can be fruitful since a person in his twenties is usually highly productive. However, research in these areas is extremely difficult, for human growth and learning are complex issues in which it is difficult to isolate variables and establish cause and effect relationships.

Of more immediate concern is the assessment or evaluation of specific time shortened projects. The record in this area, although better than the assessment in most traditional programs, is not particularly good. Most evaluation is of a formative rather than summative type, for those in charge of the assessment generally wish the program to succeed; hence, they do not have a detached experimental attitude or the assessment skills and experience for a sound approach. Many project directors or supervisors are likely to argue that it is not sensible to stress evaluation in the first years since only the long term developments are meaningful, or that assessment is a danger that diverts time and energy from program operation. However, there are a number of encouraging developments in evaluation activities due to the greater current press for accountability in all aspects of the educational enterprise.

Bersi's 1973 survey indicated that 70 percent of the fifty-seven in-

stitutions responding to the question concerning assessment had a comprehensive evaluation plan (p. 20). Over 95 percent of these colleges cited improving the program as a function of assessment, 88 percent listed quality control as another function, about 50 percent stressed cost effectiveness, and 38 percent indicated that the evaluation activity was part of the development of a management information system. This survey also indicated that the responsibility for evaluation was most commonly assigned to faculty personnel (31 percent), a designated program staff member (22 percent), the institutional research office (20 percent), or a combination of the research office and program staff (13 percent). Only about 7 percent of the programs cited the use of an outside agency for review; another 6 percent listed a mixture of individuals responsible for evaluation.

A review of the evaluation comments included in several of the brief time shortened degree program descriptions found in the Bersi study reveals that many systems focus on student attitudes and academic achievement as measured by standardized tests or other devices and compared with control groups of traditional students.

An example of an excellent implementation of this approach is the State University of New York College at Geneseo. From the beginning of its program in 1971, this college was conscious of the necessity for an effective assessment system for both internal use and external reporting. The basic criteria for judging the three-year students is a comparision of their academic performances with the performance of four-year students in the control groups. Special recordkeeping forms were developed to maintain all appropriate information. Tests such as CLEP, the College Student Questionnaire, GRE's, the Field Test of the Undergraduate Record Exam, and local instruments have been used. Test information has been supplemented by normal data such as grade averages and attrition statistics. Thus far, the registrar's information shows higher grade averages and lower attrition among the accelerated students. The institutional research office is in charge of the assessment. Although they are sympathetic to the experiment, they have maintained a professional detachment (Meinert 1974).

There are two other time shortened approaches that have received substantial assessment attention. The Advanced Placement Program (AP) has been the focus of a number of studies. Burnham (1972) showed that those who entered sophomore courses directly because of their AP work did as well or better than those students who took the normal freshman introduction. Miller's study (1968) demonstrated that those students who accepted the opportunity to accelerate offered by AP had saved as much as two years, compared with their age peers,

with no observable ill-effects in graduate activities, occupational activities, or general socioeconomic status.

Another area that has attracted assessment attention is that of acceleration activities in medical education. A number of studies have been done. Grossman's work (1972) indicates little difference between accelerated and regular medical students. Gotthelf (1972) made interesting use of Stern and Pace's hypothesis that congruence between student needs and college attributes is a better predictor of student achievement than characteristics of either the student or the college. Applying this concept to accelerated medical students, he found that their expectations were similar to the traditional time pattern students, but that their perceptions were more favorable; and hence, they experienced greater congruence and satisfaction.

*Support for Time Shortening Options*

In previous historical periods, the leadership for time shortening movements tended to center around a few institutions or individuals. This is not the case in the current era, for there are time shortening options and experiments in many institutions throughout the nation. The prestigious private institutions, while providing some opportunities for acceleration, have not yet adopted some of the more dramatic forms, such as the three-year baccalaureate program. They are, however, considering more substantial changes but the general impression remains that although these institutions are still influential, they are no longer a dominant force in shaping higher education.

The closest approximation to leadership of the current time shortening activity is the Carnegie Commission on Higher Education. During its lifespan from 1968 to 1973, and under the chairmanship of Clark Kerr, this group issued or sponsored the publication of over seventy-five books and pamphlets on a multiplicity of educational concerns. A number of these publications, particularly those dealing with the academic degree structure, professional education, and academic reform, included reference to and support for experimentation and greater flexibility in the time requirements of American education. No single publication, however, deals with the issue as a separate topic nor is it highlighted as a major solution to educational problems. The commission publication that is most commonly associated with the topic of time reduction is the forty-five page pamphlet, *Less Time, More Options* (1971a). It presents nine major themes, including the assertion that "the length of time spent in undergraduate college education can be reduced roughly by one-fourth without sacrificing educational quality" (p. 1). Although little detailed support for this as-

sertion is presented, the simplicity and clarity of the suggestion appears to have penetrated the thinking and actions of many educators and institutions far more than complex and reasoned presentations.

The published views of other groups studying higher education, such as the Newman Task Force or the Gould Commission on Non-Traditional Education, have not given major attention to time shortening activities. They have been supportive, however, as they have called for a reexamination of educational priorities and practices, plus experimentation that could easily include time-pattern changes.

Tangible support for experiments in time shortening has come from the Carnegie Corporation of New York, which has invested well over one million dollars to support thirteen programs in five states. All but one of these institutions, Colgate University in New York State, are public colleges. They include The State University of New York at Albany, Buffalo, Brockport, Geneseo, Fredonia, and Plattsburgh; the California State Colleges at Dominquez Hills, San Francisco, and Bakersfield; Bowling Green State University in Ohio; the University of Illinois at Urbana; and Appalachian State University in North Carolina.

These institutions are experimenting with a number of approaches such as testing, early admissions, and three-year baccalaureate programs, but they are not a highly organized or cohesive group, as was demonstrated by the May 1973 meeting of project directors (Giardina 1973). The Carnegie Corporation has not sponsored any general conferences or publications to disseminate the developments at the thirteen colleges, so it is difficult to estimate how influential they have been in terms of national developments of this type. They probably have provided a certain respectability for the concept of time shortening, but apparently most colleges now involved in these activities have developed their own local approaches and have not closely imitated another institution or master plan.

Other organizations that have supported certain forms of time shortening approaches are testing groups such as the College Entrance Examination Board and the Educational Testing Service. The College Board has long advocated acceleration opportunities through the use of the Advance Placement Program, and the Educational Testing Service has developed a number of test instruments that can be used for awarding credit. However, neither of these groups has been a "hard sell" advocate of time shortening. They have made studies of their instruments and programs and have sought to meet the needs of the educational marketplace rather than spearhead changes in educational format (Rein 1974).

The New York State Board of Regents has also provided support for more flexible educational approaches, including time shortening possibilities, by the creation of the College Proficiency Examination Program in 1963 and the Regents External Degree Program in 1970.

Educational conferences and institutes have given attention to time shortening by sponsoring speeches and concurrent sessions dealing with the topic. The subject has attracted interest but may be on the decline, as conference organizers seek newer and more exciting issues to entice and entertain conferencegoers.

It is doubtful that there will be a separate association of colleges with time shortening options because the variety of possibilities within the topic is so great and the practitioners so diverse that close association is not encouraged. In contrast to previous eras, the existing educational associations at both the secondary and postsecondary level have not taken an official position in support of, or in opposition to, time shortening. The accrediting agencies have been characteristically silent. It is surprising to note how little public opposition there has been to acceleration activities. Speakers and articles point out the dangers and problems associated with such activities, but they are usually balanced presentations that do not suggest the adoption of such approaches will undermine higher education or defraud students. Perhaps this is a mark of the greater sophistication of educators and their willingness to greet even unwelcome events in a cooler and more rational fashion, or it may indicate that other educational problems are so severe that little energy can be devoted to time shortening developments.

Educational journals have also given the topic reasonable attention. The *Journal of Higher Education* and the *Journal of Medical Education* have provided the most substantial coverage about time shortening; however, the *Educational Record* and the *College Board Review* have also described these developments. Almost all other leading journals have had at least one article which indirectly, if not directly, related to the topic.

The general conclusion that emerges from these observations is that the broad and diverse nature of time shortening opportunities is not the product of a single or small group of institutions or organizations, but rather is the response of a great number of educators and institutions to pressures on the educational system to rethink and experiment with alternatives to traditional beliefs and practices.

## Conclusions

*Major Findings*

A review of the literature concering time shortening approaches to academic degrees, although indicating the difficulty of keeping the topic separate from other important educational questions, permits the following conclusions.

1. *History.* The four-year pattern of undergraduate study in American education was established in the colonial period. It was based on the English tradition and the need for an extended period of time to compensate for the weakness of colonial preparatory education. There was no strong challenge to this time expectation until the late nineteenth century, when improved elementary-secondary education, the older age of graduates caused by increased demands for professional study, and the impact of the German university concept led to largely unsuccessful efforts to modify the system. A second cluster of reform activities that were associated with wartime necessities and an attempt to differentiate between general education and specialized or graduate education occurred in the 1940s and 1950s.

2. *Support for Time Shortening.* A broad new effort to establish greater flexibility in time expectations began in the late 1960s. Current advocates of time shortening contend that such changes are possible or essential for the following reasons: the economic benefits for the student and the society; the physical, social, and intellectually advanced nature of young people; the need to eliminate wasteful curricular duplication between high school and college; the emotional and psychological stress that accompanies a prolonged period of education; the increased use of competence testing; the need to view learning as a lifelong process, in contrast to the present system in which education is assumed to be completed when the degree is awarded; the social benefits of allowing talented people to move quickly into productive life; a realization of the individual nature and pace of human development; the recognition of noncollegiate educational experiences; and the existence of a number of local benefits for institutions with time shortening options.

3. *Criticism of Time Shortening.* The primary obstacle to adoption of more flexible options in the time expectations of the degree structure is simply tradition. There is no organized opposition to change in time patterns, although individual critics point out: the pos-

sible danger to general education: the explosion of knowledge that may require a longer period of study; the emotional dangers in rapid progression; the elitist tendency to focus on the able or gifted to the neglect of the average student; the normal opportunities for acceleration that are already available and frequently unused; the more substantive educational issues that are neglected by focusing on the question of time; the illusory hopes of fiscal benefits; and the potential harm changes could do to the community college and/or the integrity of the bachelor's degree.

4. *Approaches.* There are a variety of approaches to time shortening available today. The use of testing to validate a student's knowledge and allow him or her to move quickly through the academic system is widely offered. Compression approaches that involve course overloads, summer school, or lengthened academic calendars are also used for acceleration. Forms of articulation between educational levels, particularly between college and high school, are another approach that includes early admissions and dual enrollment. A fourth technique is curricular revision and restructuring that allows more rapid progression by the reduction of requirements, the elimination of duplication, and more individualized academic programs.

Only a small number of three-year baccalaureate programs are currently in existence. These, however, have received an inordinate amount of publicity. Most of these programs, although reducing the formal credit hour expectation, have maintained the general quantity-quality expectations of the traditional four-year degree by a variety of techniques.

5. *Availability.* Time shortening opportunities are widely available, although there is no organized movement or master plan guiding such activities. Both public and private colleges in all sections of the country are involved. Public colleges in New York and California appear to be in the forefront of many of the experimental efforts.

The most common techniques of time shortening, listed in order of their availability, are testing, compression, curricular modification, concurrent enrollment, individualized programs, early admission, and experiential learning.

These options are most commonly used at the bachelor's degree level, with less evidence of use in connection with the associate degree. There has been some effort to reduce time expectations in selected programs at the master's level and in medical education, but little change has taken place in the time requirements of doctoral programs (Ph.D.) or legal education.

The only structural change has been the advocacy and establishment of a few middle or intermediate colleges, which include the last years of high school and the first years of college in a new educational unit.

6. *Student Use.* There are no reliable statistics available on the numbers of students in time shortened programs, but secondary evidence and estimates suggest as many as 15,000 students substantially involved and approximately 150,000 with a more limited degree of involvement. Student motives for acceleration vary considerably, but the most commonly cited reasons are the desire for early entry into the job market or professional or graduate school, the wish to save money, the appeal of an innovative program, the challenge of such a program, and the desire to avoid general education courses or to escape more quickly from the educational system. Motivation and a sense of direction appear to be the most common characteristics of students selecting time shortening opportunities. Students who have already broken the traditional academic pattern in the past appear more likely to select a time shortened option.

7. *Summary.* The major problem does not appear to be the reckless or irresponsible granting of credit or the reduction of academic expectations; it does appear to be the need for more flexible and individualized opportunities for progression.

*Unanswered Questions*

There are several areas that require continual monitoring. Currently statistics are fragmentary, case studies superficial, and research concerning time shortening almost nonexistent. We do not have a firm idea of the number of students involved in various time saving approaches. Information about the results of acceleration that are based on large scale longitudinal studies are lacking, and we know relatively little about institutional or individual motives. There is a serious lack of information about faculty attitudes concerning acceleration and the behavior of faculty members toward students in such programs. There are a variety of other rather specific questions. Will student use of time shortening options increase? Will it become the dominant mode? What will the fiscal impact be? How will changes affect the community colleges? Will general education be damaged or saved?

There are also a number of broader educational questions raised by a review of time shortening literature. What is the basic purpose and role of the bachelor's degree? How can the essential time for education be determined unless the purpose of education is known? What

are the appropriate relationships between undergraduate education and the secondary schools, on one hand, and the graduate or professional schools on the other? Will the development of a learning society and competence based education make concern with the educational time factor obsolete? Will changes in the time pattern trigger or support broader educational changes? How much diversity can our educational system (and society) accept and provide?

*The Future*

The subject of time shortened degrees is but a part of the larger issue of the direction contemporary education should take. If traditional time patterns and requirements are to be significantly altered, it will probably not be by dramatic changes within the college curriculum as much as by new relationships with secondary school students and the adult learner.

Most of the current time saving techniques operate within the traditional structure of education, and yet major savings seem possible only if education is treated as one continuous system, not as a collection of rather autonomous units.

> As a people, we do not think in terms of education, we think in terms of schools. We have no education system; we have an elementary school, a high school, and a college (*General Education* 1952, p. 73).

Unless educators can develop a coordinated system or at least significantly improve the articulation and cooperation between educational levels, most students will continue to suffer needless delays, wasteful duplication, and gaps in their education instead of a continuous intellectual challenge commensurate with their talents and abilities. What is needed is a rethinking of the total system and not simply patchwork changes.

A second issue related to time shortened opportunities that is likely to assume greater importance in the future is the recognition of experiential learning or the educational contributions of noncollegiate postsecondary courses and programs. These developments will be particularly beneficial to adult learners and allow them to achieve necessary credentials more quickly.

Although the phrase "time shortened degrees" may disappear as a popular topic or focus of concern in higher education, many of the pressures, concerns, and responses associated with the subject that have been noted in this study will remain significant educational issues for the remainder of this decade and beyond.

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This is a highly selective bibliography that does not include institutional documents or catalogs dealing with the topic. Only a few items published prior to 1965 are cited. Most of the material listed has been produced in this decade (over 85 items). There is no single work that approaches adequate coverage of the topic but the items preceded by an asterisk (*) provide a good introduction to the literature.

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